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# 1987

## Census of Construction Industries

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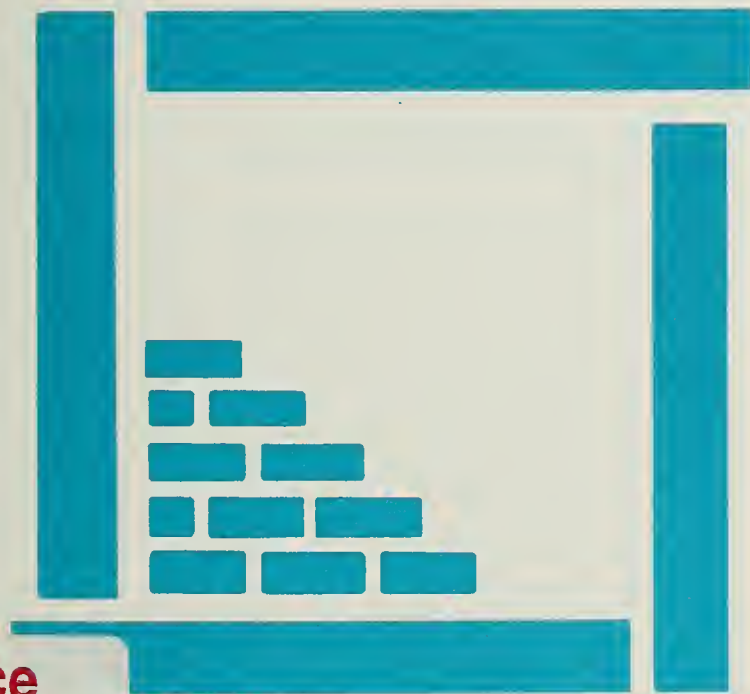
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INDUSTRY SERIES

### Masonry, Stone Setting, and Other Stone Work Special Trade Contractors

Industry 1741

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# ACKNOWLEDGMENTS

Many persons participated in the various activities of the 1987 Census of Construction Industries.

The overall planning and review of the census operations were performed by the staff of the Office of the Assistant Director for Economic and Agriculture Censuses.

This report was prepared in the Construction Statistics Division. **Barry A. Rappaport**, Assistant Division Chief for Industry Surveys, was responsible for the overall planning, management, and coordination of the census of construction industries. Planning and implementation were under the direction of **A. William Visnansky**, Chief, Census Operations Branch, with primary staff assistance by **Juliana Van Berkum**, **Barbara J. Hadden**, **Edward R. Glover**, **Susan L. Hostetter**, **Shirley M. Baker**, and **Carolyn J. Stone**. Under the direction of **Jesse Pollock**, **Edward K. Ricketts** and **Dennis K. Duke** developed the sampling plans and variance and estimation specifications.

Systems and procedures for mailout, receipt, correspondence, data input, industry classification, other clerical processing, administrative record processing, and quality control, along with the associated electronic computer programs, were developed in the Economic Surveys Division, **W. Joel Richardson**, Chief.

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Special acknowledgment is also due the many businesses whose cooperation has contributed to the publication of these data.

If you have any questions concerning the statistics in this report, call (301) 763-7546.

# **1987 Census of Construction Industries**

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CC87-I-13

INDUSTRY SERIES

## **Masonry, Stone Setting, and Other Stone Work Special Trade Contractors**

Industry 1741

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Issued January 1990



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**BUREAU OF THE CENSUS**  
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## PURPOSE AND USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source of facts about the structure and functioning of the Nation's economy. They provide essential information for government, business, industry, and the general public.

*Economic censuses furnish an important part of the framework for such composite measures as the gross national product, input-output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.*

*Policy-making agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.*

*State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.*

*Trade associations study trends in their own and competing industries, and keep their members informed of market changes.*

*Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.*

## AUTHORITY AND SCOPE

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic censuses every 5 years, covering years ending in 2 and 7. The 1987 Economic Censuses consist of the—

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1987 Census of Agriculture and 1987 Census of Governments are conducted separately.) The next economic censuses are scheduled to be taken in 1993 covering the year 1992.

## AVAILABILITY OF THE DATA

The results of each of the economic censuses are available in printed reports, for sale by the U.S. Government Printing Office, and on microfiche, computer tape, compact discs with read-only memory, and flexible diskettes, for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Census Bureau, Washington, DC 20233. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State Data Centers in every State and Business and Industry Data Centers in many States also supply economic census statistics.

## WHAT'S NEW IN 1987

Several changes have taken place for the 1987 censuses. Data will be reported on the basis of the newly revised Standard Industrial Classification (SIC) system with selected reports including "bridge tables," linking the old and new classification systems. A new set of metropolitan



areas has been adopted, and more detailed information will be available for businesses with no paid employees. For additional information on these changes, review the subsequent text.

One important change involves receipts of contractors and builders. Prior to 1987, the Census of Construction Industries collected receipts as the primary measure of construction activity. For 1987, the census collected the "value of construction work done" to better measure actual construction activity done during the year. Differences between the two concepts occur when work is done in one year and payment received either from the prior or in the succeeding year. In addition, receipts do not include work a contractor performs for its own account and use.

## **HISTORICAL INFORMATION**

The economic censuses have been taken together as an integrated program at 5-year intervals since 1967, and before that for 1963, 1958, and 1954. Prior to that time, the individual censuses were taken separately at varying intervals.

The economic censuses trace their beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 manufactures census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade, and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 economic censuses were the first to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. These were the first censuses to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics as well for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic censuses, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The Census of Construction Industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The Census of Transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks. New for 1987 are publications reporting on business establishments engaged in several transportation industries, paralleling the data on establishments in

other sectors. This is part of a gradual expansion in coverage of industries previously subjected to government regulation. The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic censuses in 1972 along with the Survey of Women-Owned Businesses.

Economic censuses have also been taken in Puerto Rico since 1909, in the Virgin Islands and Guam since 1958, and in the Northern Mariana Islands since 1982.

Statistical reports from the 1982 and earlier censuses provide historical figures for the study of long-term time series, and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

## **AVAILABILITY OF MORE FREQUENT ECONOMIC DATA**

While the censuses provide complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, the results of which appear in publication series such as *Current Construction Reports* (building permits, housing starts, and value of new construction put in place), *Current Business Reports* (retail and wholesale trade and service industries), the *Annual Survey of Manufactures*, *Current Industrial Reports*, and the *Quarterly Financial Report*. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the censuses. The *County Business Patterns* program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

## **SOURCES FOR MORE INFORMATION**

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1987 Economic Censuses and Related Statistics*. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1987 Economic Censuses*. Contact Customer Services for information on availability.

## **CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION**

The 1987 Census of Construction Industries covers all employer establishments (establishments with payroll) primarily engaged in contract construction, construction on their own account for sale, or in subdividing real property



into lots as defined in the 1987 Standard Industrial Classification (SIC) Manual.<sup>1</sup> This industrial classification system has been developed by experts on classification in government and private industry under the guidance of the Office of Management and Budget and is in general use among government agencies and among organizations outside the government.

**Contract construction**—The SIC manual defines construction in three broad types of activity that follow:

1. **Building construction by general contractors or by operative builders**—General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other building projects. Operative builders who build on their own account for sale are also included here. However, investment builders who build structures on their own account for rent are classified in Real Estate.
2. **Heavy construction general contractors**—Heavy construction general contractors are primarily engaged in the construction of highways, bridges, pipelines, sewers and water lines, marine construction, power, and petro-chemical plants and other nonbuilding construction projects. Special trade contractors are classified in heavy construction if they are specifically engaged in the following activities: grading for highway and airport runways; guardrail construction; installation of highway signs; asphalt and concrete construction of roads, highways, streets and public sidewalks; trenching, cable laying; conduit construction; underwater rock removal; pipeline wrapping; or land clearing and leveling.
3. **Construction by other special trade contractors**—These contractors include plumbers, painters, carpenters, electricians, brick layers, roofers, etc. For the most part, they perform their work at the site of construction, although they may also have shops where they perform work incidental to the job site.

General contractors in both the building and the heavy construction field usually assume responsibility for an entire construction project, but may subcontract to others all of the actual construction work or those portions of the project requiring special skills or equipment. Special trade contractors may work for general contractors, for other subcontractors, or may work directly for the owner of the property.

In addition to the industries classified in the SIC manual as Construction, this census also includes one industry

classified in the Real Estate area, SIC 6552, Land Subdividers and Developers, Except Cemeteries. These establishments are engaged in subdividing real property into lots and in developing it for sale on their own account.

Each establishment receiving a questionnaire was requested to report the percent of total dollar value of business done for each kind-of-business activity engaged in during 1987. This information was used for the computer assignment of appropriate industry classifications. During this work, various tests were also made using other data reported on the questionnaire. The proportion of construction work to total business was checked to verify that the establishment was primarily in construction. Also taken into consideration were the types of structures worked on during the year and the extent of work undertaken for other contractors.

Construction establishments often engage in various construction activities. It is necessary, however, to assign a single industry code to the establishment based on its major activity. Therefore, the statistics shown for an industry reflect not only the primary activity of the establishments in the industry, but also their secondary activities. The industry reports, however, do present data on the extent of secondary activities.

A revised edition of the SIC Manual was issued in 1987. Minor modifications were made to three industries in the construction sector: SIC 1611, Highway and Street Construction Contractors, Except Elevated Highways; SIC 1629, Heavy Construction Contractors, N.E.C.; and SIC 1771, Concrete Work Special Trade Contractors. The extent of these modifications are explained in the specific texts for those industries. "Bridge tables" are also included showing selected data tabulated using both the previous classification system and the 1987 revision.

## ESTABLISHMENT BASIS OF REPORTING

The census of construction industries is conducted on an establishment basis. A "construction establishment" is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such "establishment" activities include, but are not limited to estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each such establishment operated during all or any part of 1987. The census of construction industries figures represent a summary of records for individual establishments rather than for companies. The census tabulations, therefore, differ from those prepared on a company basis.

<sup>1</sup>Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.



If an establishment engaged in construction and one or more distinctly different lines of economic activity (wholesale or retail trade, service, manufacturing, mining, etc.) at the same place of business, it was requested to file a separate report appropriate to each activity, provided that the activity was of substantial size and separate records were maintained or substantially accurate estimates could be prepared.

If a separate establishment report could not be prepared for each activity, then a construction report was requested covering all activities of that establishment providing that the 1987 value of construction work exceeded the gross receipts from each of its other activities.

Construction businesses with no payroll during 1987 (nonemployers) were not required to file census reports. Tabulation of data for these businesses are based on administrative records and are shown only in U.S. summary publications and the geographic area reports series. Refer to the section on "Sample Design" for details. Foreign construction activities were not included in this census.

## **SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES**

The companies included in the 1987 Census of Construction Industries were identified as part of an operation common to all 1987 Economic Censuses. Construction companies were divided into employers (companies with payroll) and nonemployers (companies without payroll). Statistical information for the employers was obtained in the census by a survey which included all medium size and large employers and a sample of the smaller ones. Census reports were not required from the nonemployers. Statistics on them were obtained from administrative records of other agencies of the Federal Government.

### **Employer Companies**

**Developing the sampling frame for employer companies**—This operation started with obtaining a list of all construction companies in the active records of the Internal Revenue Service (IRS) which were subject to payment of Federal Insurance Contributions Act taxes. The basic source for this list has been the Internal Revenue Service Business Master File, a comprehensive list of companies engaged in business activities in the United States. The file contains the name, address, and form of ownership of each company and also indicates whether or not the company is subject to the FICA. Each company in this file is assigned a unique employer identification (EI) number which it uses in filing its various reports with the IRS. The Social Security Administration (SSA) maintains a similar list using the same identification numbers, which also contains information on the industrial classification of each company. The Bureau of the Census obtained both of these lists and combined them.

Under special arrangements which safeguarded the confidentiality of the information, the Bureau also obtained administrative records data on payrolls and receipts and added these data to the combined list. The list, thus created from the IRS-SSA information, was a list of employer companies. However, for the 1987 Economic Censuses the basic reporting unit is the "establishment." Therefore, steps were taken to identify the individual establishments of those companies which operate more than one place of business. The information for making this determination was obtained by means of the Company Organization Survey (COS), an annual canvass of all known multiestablishment companies and large single-establishment companies. Thus, the 1987 Economic Census list for single-establishment employer companies was obtained from the IRS-SSA, but the list of establishments of multiestablishment employer companies was obtained directly from those companies in the COS. Refer to the section on "Establishment Basis for Reporting" for details.

In general, the IRS-SSA list provided sufficient industrial classification data to assign a company to the proper economic census, but there were a number of companies for which this information was inadequate or unavailable. A special form, NC-9923, General Schedule, was mailed to all such companies, requesting information on the nature of the company's activities. From the information reported, the company was given an industrial classification code and assigned to the appropriate economic census. Since construction companies found in this way were identified only after the regular census mailing had taken place, they were treated as a supplement to the basic list.

**Selecting the employer sample**—The sample was designed to provide reliable State and metropolitan area estimates for each construction industry. It consisted of all construction establishments in multiestablishment companies, all single-establishment companies with estimated total employment of 20 employees or more, and a probability sample of single-establishment companies with estimated employment of fewer than 20 employees.

Supplementing the sample were construction companies identified from the NC-9923, General Schedule. Also affecting the sample were the misclassified companies; i.e., companies included in the samples of other trade areas which reported they were construction companies and companies originally classified in construction which reported they were not construction companies.

Of the 533,000 single-establishment employer companies initially classified as construction companies, 147,000 were included in the sample. All of the 13,000 establishments of multiestablishment companies were included in the sample. There was a net increase in the sample of 60,000 establishments resulting from establishments originally unclassified (receiving the NC-9923) or misclassified.

The probability sample of the smaller single-establishment companies was a stratified random sample. Strata were formed from all establishments with the same initial four-digit SIC code, in the same State, in the same metropolitan



area or in the balance of the State, and in the same size class based on estimated total employment. If the four-digit SIC code for an establishment was incomplete, the establishment was placed in a stratum for miscellaneous companies. Because they were small, all companies were included in the sample for the following three industries: SIC 1622, Bridge, Tunnel, and Elevated Highway Construction Contractors; SIC 1795, Wrecking and Demolition Work Special Trade Contractors; and SIC 1796, Installation or Erection of Building Equipment Special Trade Contractors.

**Estimation procedures for 1987 and 1982 data—**Since all larger employer companies and some smaller ones were included in the census, sample estimation was required only for the universe of companies not selected with certainty. The published statistics are the totals of the estimates for the sampled companies and the aggregates for the certainty companies. All estimates for 1987 and 1982 published here are simple unbiased estimates of the form:

$$x'_c = \frac{\sum_{i=1}^{n_c} x_i}{n_c} / p_i$$

where:  $x'_c$  is the simple unbiased estimate of a characteristic for a publication cell.

$x_i$  is the reported value of a characteristic for an individual establishment in the publication cell.

$p_i$  is the selection probability of that firm.

$n_c$  is the number of firms in the sample for the cell.

Data for certain characteristics were reported as a percentage of the dollar value of business done. Before this formula was applied to those characteristics, it was necessary to convert the reported percentages into dollars.

**Reliability of employer statistics—**Since the estimates for employer establishments in these reports are based on the samples, they are subject to sampling variability and may be expected to differ from results which would have been obtained if a complete census had been taken using the same forms and procedures. The sampling errors shown in the tables were estimated directly from the sample reports, using methods appropriate for the sample design and form of estimation used.

The relative standard error is a measure of sampling variability, i.e., the variation that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the relative standard error also partially reflects the effect of random errors of response and processing, but it does not take into account the effect of any consistent biases due to those types of errors. The chances are about 68 out of 100 that an estimate from the

sample would differ from a complete census by less than the relative standard error. The chances are about 95 out of 100 that the difference is less than twice the relative standard error and about 99 out of 100 that it is less than 2-1/2 times the relative standard error. Individual estimates with large relative standard errors have been shown in the published tables. Any such estimates should be used with caution. The very large relative standard errors generally occur for the smaller estimates.

Relative standard errors have been calculated for all of the published statistics, although they are shown for each statistic only in the tables presenting detailed statistics. Other tables show relative standard errors only for certain characteristics because of lack of space.

As calculated for this report, the relative standard error measures certain nonsampling errors, but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples with the same size and design, between the estimates and the true value being estimated. Nonsampling errors can be attributed to many sources: inability to obtain information about all cases in the sample; definitional difficulties; differences in interpretation of questions; inability or unwillingness of respondents to provide correct information; and errors made in processing the data. Although no direct measurements of the biases have been obtained, it is believed that most of the important response and operational errors were detected in the course of reviewing the data for reasonableness and consistency.

A potential source of bias is in the imputation for those establishments that have not responded by the time of final publication. Data were estimated for establishments that did not report by that date, although selected establishments were contacted again to obtain as much information on the telephone as possible. Some publication cells in which more than 40 percent of the data were not reported have been suppressed.

## Nonemployer Companies

As described earlier, the information derived from the business income tax returns of all companies was matched to the census employer file on the basis of common identification numbers. Those business income tax returns which could not be matched, were further classified on the basis of several characteristics. Returns with characteristics consistent with companies without payroll were treated as nonemployers. The nonemployer construction companies were not required to file census reports.

For "number of establishments," each separate income tax return was assumed to be an establishment. "All business receipts" was based on receipts information reported on the tax return.

Since no sampling was involved in the nonemployer establishments, the statistics for nonemployers are not subject to sampling variability. However, these data are subject to an unknown amount of reporting and processing errors which could not be detected by the Census Bureau.



## **CENSUS REPORT FORMS**

Information for the 1987 Census of Construction Industries was obtained from employer establishments primarily through the use of twenty-four questionnaires, determined by industry classification and size. Standard forms and short forms were developed for each of the following SIC groups: 15, 16, 171, 172, 173, 174, 175, 176, 177, 178, and 179 and for the establishments classified in SIC 6552. Establishments with 50 or more employees all received the standard form. A sub-sample of establishments with fewer than 50 employees received short forms instead of the standard forms. The short forms covered only major items and omitted some of the detail found in the longer forms.

In reviewing and developing the questionnaires, comments and recommendations were elicited from construction trade associations and appropriate advisory groups. The Bureau surveyed several thousand firms representing all economic activities to gain insight into the way companies maintain records and to see whether new information could be collected.

## **DATA PROCESSING**

The 1987 census report forms were mailed out in December 1987. They were mailed from and returned to the Census Bureau's Data Preparation Division in Jeffersonville, Ind., where routine editing and coding of the report forms were also accomplished. Collection of these report forms was essentially completed in July 1988.

The returned reports underwent extensive processing. A preliminary edit done at the time of data entry identified obviously deficient reports and reports needing clarification. When necessary, these problems were resolved by further contact with the respondents. Next, the data were transmitted to Census Bureau headquarters near Washington, DC.

Data records, then, underwent a detailed computer review and analysis. The records containing significant problems were referred for further analytical review and, if necessary, contacts were made with the respondents. The computer performed most classification coding (such as industry coding, geographic coding, and size coding), and imputation for missing items or for reports not received in time for tabulation. The imputation was performed on an industry (or industry group)-State (or geographic group) basis using all available response and administrative data.

The data records were then tabulated on an industry basis. Industry totals were subjected to analytical review, and selected statistics were prepared for the preliminary reports. Corrections resulting from this review were made to the computer records and final tabulations were produced.

The review of a preliminary report for an industry often uncovered the need for corrections or revisions to the data for another industry for which a preliminary report had already been published. The final reports incorporate all

revisions and corrections made during the review of the preliminary reports and contain considerable more data than were published in those reports.

## **GEOGRAPHIC CLASSIFICATION**

Information for the 1987 Census of Construction Industries' final industry report series is classified on the basis of two types of geographic distributions: (1) physical location of the establishment, and (2) location of construction work. A separate code was assigned on each basis allowing us to present data by both physical locations of the establishment and location of construction work.

The geographic area reports series presents similar data by industry for each State (physical location of the establishment) and for selected MSA's, CMSA's and PMSA's.

## **DUPLICATION IN VALUE OF CONSTRUCTION WORK**

The aggregate of value of construction work reported by all construction establishments in each of the several industry, geographic area, or other groupings in this census, contains varying amounts of duplication, since the construction work of one firm may be subcontracted to other construction firms and also be included in the subcontractors' value of construction work. To avoid this duplication, a "net" value of construction work figure has been derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work.

Duplication in value of business between other construction and nonconstruction industries, results from the use of products of these other industries as input materials by construction establishments. "Value added," avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or areas. "Value added," is defined in the 1987 Census of Construction Industries as equal to dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels. However, for SIC 6552 and SIC 1531 where land receipts are significant, land receipts are also subtracted from dollar value of business done.

## **SPECIAL TABULATIONS**

Special tabulations of data collected in the 1987 Census of Construction Industries may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact and detailed specifications of the type and format of the data to be provided, should be directed to the Chief, Construction Statistics Division, Bureau of the Census, Washington, DC, 20233.



To discuss a special tabulation before submitting specifications, call 301-763-7546.

**COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH OTHER DATA**

Data contained in the reports of the 1987 Census of Construction Industries are not the same as the data published in the Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity, whereas the construction census figures cover both new construction and maintenance and repair work done by establishments classified in the construction industry. Significant amounts of construction are done by establishments classified outside of construction (in real estate, manufacturing, utilities and communications, for example), both as "force account" construction and construction done for others. In addition, the value in place series includes construction-related expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in the Census of Construction.

Data contained in the reports of the census of construction industries may also differ from industry data in "Employment and Earnings Statistics," published by the Bureau of Labor Statistics, and "Statistics of Income," published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

**ABBREVIATIONS AND SYMBOLS**

The following abbreviations and symbols are used in this publication:

*	Sampling error exceeds 40 percent.
**	Represents the sum of all employees during pay periods including 12th of March, May, August, and November, divided by 4.
-	Represents zero.
†	Represents value of construction work less costs for construction work subcontracted to others. (See Duplication in Value of Construction Work.)
††	Represents dollar value of business done less costs for construction work subcontracted to others, and costs for materials, components, supplies, and fuels. In SIC's 1531 and 6552, land receipts are also subtracted from dollar value of business done. (See Duplication in Value of Construction Work.)
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate, associated relative standard error, or a consistency review.
(W)	Greater than zero but less than 1 percent.
(X)	Not applicable.
n.s.k.	Not specified by kind.

# Users' Guide for Locating Statistics in This Report by Table Number

Statistics	For U.S.	By State	By employment size	By size class of dollar value of business done	By type, class, ownership, kind of business, and location of construction <sup>1</sup>	By specialization in types of construction
Assets and depreciation (gross book value):						
Beginning of year—buildings, machinery and equipment.....	3					
End of year—total.....	1, 3	1	5	6		
End of year—buildings, machinery and equipment.....	3					
Depreciation charges during year—buildings, machinery and equipment.....	3					
Capital expenditures:						
Total capital expenditures.....	1, 3	1	5	6		
New buildings—machinery and equipment.....	3					
Used buildings—machinery and equipment.....	3					
Communication services, costs for.....	2					
Employees:						
All employees—average number.....	1, 2	1	5	6		8
Construction workers—average number.....	1, 2, 9	1, 9				
Other employees—average number.....	2					
Employer costs for fringe benefits—legally required and voluntary expenditures.....	2					
Establishments—number in business during year.....	1, 2, 4, 9	1, 9	5	6		8
Hours—construction workers:						
Total.....	1, 2, 9	1, 9	5	6		
Quarterly.....	2, 9	9				
Inventories.....	4					
Materials, components, supplies, and fuels—costs for.....	1, 2	1	5	6		
Payroll:						
First quarter, all employees.....	2					
Annual:						
All employees.....	1, 2	1	5	6		8
Construction workers.....	1, 2	1				
Other employees.....	2					
Power, fuels, and lubricants—costs for.....	2					
Proprietors and working partners.....	2					
Ratios, State.....	13	13				
Value and receipts:						
Dollar value of business done, total.....	2		5	6	11	
Value of construction work, total.....	1, 2, 4	1	5	6	2, 7, 10	8
For work subcontracted in from others.....	2					
Other business receipts and land receipts <sup>2</sup> .....	2					
Net value of construction work.....	1, 2	1	5	6		8
Value added.....	1, 2	1	5	6		8
Rental costs:						
Total.....	1, 2	1	5	6		
For machinery and equipment.....	2					
For buildings.....	2					
Repairs to buildings and other structures.....	2					
Repairs to machinery and equipment.....	2					
Selected industry ratios.....	12					
Subcontract work to others, costs for.....	1, 2	1	5	6		8

Note: Data for 1982 and earlier years are also available in some of these tables.

<sup>1</sup>Type—buildings, roads, etc. Class—new construction; additions, alterations, or reconstruction; or maintenance and repair work. Ownership—private or government owned.

<sup>2</sup>Land receipts are shown separately for SIC's 1531 and 6552 only.



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## Masonry, Stone setting, and Other Stone Work Special Trade Contractors

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# SUMMARY OF FINDINGS

Establishments classified in this industry are primarily engaged in masonry work, stone setting, and other stone-work. This industry also includes boiler setting contractors, bricklaying contractors, cement block laying contractors, chimney construction contractors, exterior marble work contractors, and tuck pointing contractors. For additional examples, refer to the 1987 Standard Industrial Classification (SIC) Manual published by the Office of Management and Budget, Executive Office of the President.

During 1987, the establishments with paid employees classified in this industry accounted for \$8.8 billion in total dollar value of business. Of this amount, \$8.7 billion were for the value of construction work. These establishments paid out \$2.7 billion for materials, components, and supplies and \$445 million for construction work subcontracted to others. Costs for selected power, fuels, and lubricants for this industry were \$143 million. Value added for 1987 was \$5.5 billion.

There were 23,284 establishments with total employment averaging 168,978 during the year. Total payroll for 1987 was \$2.9 billion. Total hours worked by construction workers during the year were 222 million hours.

Larger establishments with 20 employees or more, while representing only 6 percent of the total number of employer establishments in this industry accounted for 48 percent of all business done.

A "construction establishment" is defined as a relatively permanent office, or other place of business, where the usual business activities related to construction are conducted. A separate census report was required from each sampled establishment covering domestic operations. Separate reports were not, however, required for each project or construction site.

In 1987, the value of construction work was collected to better measure actual construction activity done during the year. Construction receipts, as reported in earlier censuses, may have included the value of work done before or after the calendar year and may have excluded the value of work in progress during the calendar year. Receipts may have also excluded work done by builders engaged in construction for sale on their own account or for their own use. All dollar values are shown in current dollars for the years specified and have not been adjusted for inflation.

The data in this report are estimated from a sample survey and are subject to sampling variability as well as errors of response and nonreporting. The relative standard error shown in the tables is a measure of sampling variability. Descriptions of the sampling, estimating procedures, and data reliability are included in the introduction.



Figure 1. **Value of Construction Work by Type of Construction**

(Percent)

1987   
1982 

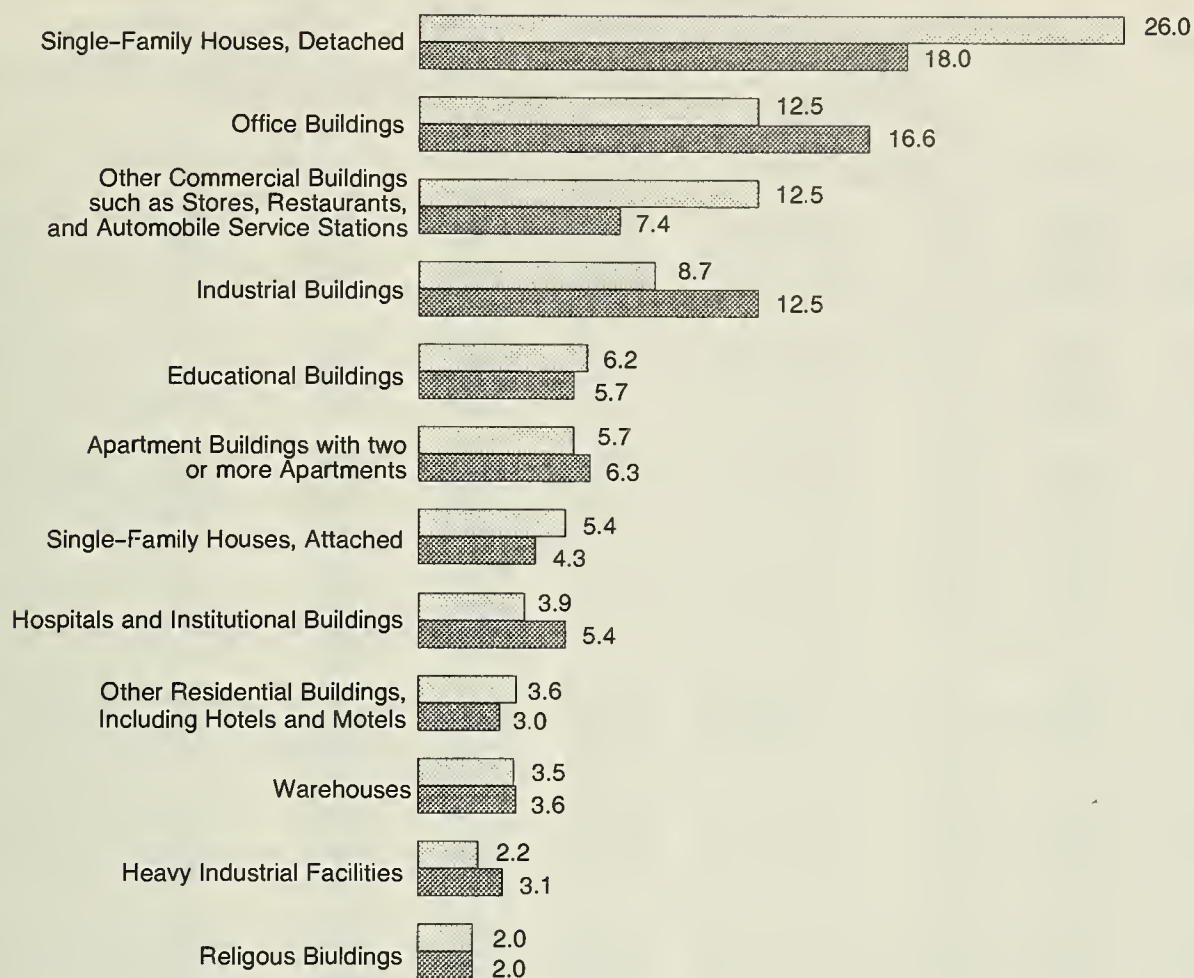
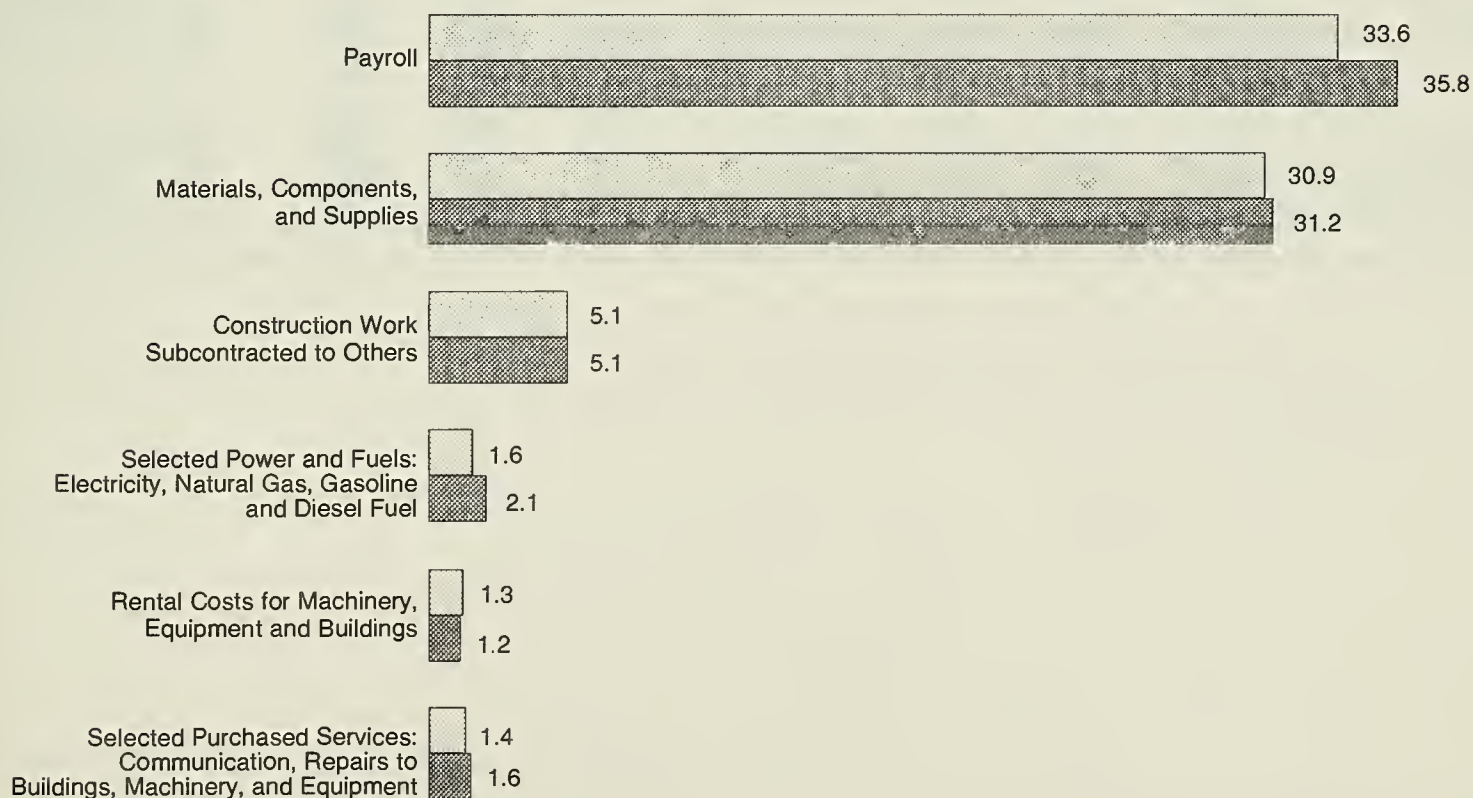


Figure 2. **Selected Costs Per Dollar Value of Business Done**

(Percent)

1987   
1982 



**Table 1. General Statistics for Establishments With Payroll by State: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	1987							
	Number of establishments	Employees**		Payroll		Construction worker hours (thousands)	Value of construction work	Net value of construction work†
		All	Construction workers	All employees	Construction workers			
A	B	C	D	E	F	G	H	
United States .....	23 284	168 978	150 308	2 946 997	2 461 628	221 510	8 714 161	8 269 188
Alabama .....	336	3 422	3 186	37 767	32 977	4 468	103 130	95 607
Alaska .....	6	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Arizona .....	368	3 921	3 520	64 279	53 717	5 341	191 993	186 529
Arkansas .....	187	870	806	8 184	7 436	1 137	28 141	27 535
California .....	1 536	12 609	11 035	265 220	220 311	16 232	870 706	813 113
Colorado .....	300	2 005	1 794	33 405	28 188	2 418	99 086	95 693
Connecticut .....	448	2 708	2 348	55 670	45 595	3 602	163 769	156 216
Delaware .....	135	1 202	1 060	20 664	16 615	1 541	61 745	58 429
District of Columbia .....	11	96	88	1 791	1 342	125	5 459	5 283
Florida .....	1 244	9 332	8 366	130 530	110 849	12 870	374 331	347 784
Georgia .....	524	4 081	3 739	49 711	43 952	5 200	122 890	118 392
Hawaii .....	82	581	481	12 047	9 922	725	40 626	39 854
Idaho .....	83	247	234	2 154	2 098	242	11 543	11 252
Illinois .....	946	7 644	6 723	176 045	146 246	10 432	483 462	463 456
Indiana .....	473	3 083	2 680	57 178	47 868	4 222	174 933	165 610
Iowa .....	179	1 203	1 023	20 666	17 050	1 543	54 740	53 380
Kansas .....	223	1 255	1 107	21 643	18 788	1 587	57 336	53 880
Kentucky .....	347	2 094	1 868	26 872	23 012	2 599	75 140	69 791
Louisiana .....	202	1 995	1 732	29 568	23 882	1 988	93 980	89 050
Maine .....	198	1 103	961	15 787	12 923	1 686	48 684	47 788
Maryland .....	675	8 825	7 989	153 107	127 303	11 632	409 134	397 239
Massachusetts .....	703	4 968	4 362	104 309	86 799	6 283	298 477	291 215
Michigan .....	746	4 290	3 792	93 129	79 235	5 814	265 692	256 687
Minnesota .....	438	2 793	2 455	59 170	49 714	3 739	183 320	177 329
Mississippi .....	200	877	796	7 582	6 785	1 311	22 666	18 116
Missouri .....	545	4 886	4 387	90 076	75 573	5 474	220 327	215 596
Montana .....	68	191	163	2 424	2 171	189	9 622	9 488
Nebraska .....	180	901	785	10 648	9 380	1 099	28 991	27 687
Nevada .....	106	865	761	17 293	13 737	1 038	57 428	56 565
New Hampshire .....	205	1 015	890	16 166	14 236	1 279	50 120	48 716
New Jersey .....	1 204	7 618	6 682	168 071	133 534	10 626	554 816	509 063
New Mexico .....	114	728	654	10 176	8 899	830	30 776	29 280
New York .....	1 593	11 026	9 662	229 958	188 826	14 841	722 348	680 515
North Carolina .....	1 139	7 242	6 606	88 950	77 509	9 164	229 150	216 935
North Dakota .....	75	268	234	4 028	3 416	335	12 338	11 052
Ohio .....	1 099	7 347	6 549	128 914	107 941	10 135	383 660	360 256
Oklahoma .....	123	515	471	7 489	6 651	681	19 320	19 044
Oregon .....	169	663	596	11 758	9 642	882	40 335	38 874
Pennsylvania .....	1 493	11 105	9 924	201 574	172 379	15 349	640 805	611 895
Rhode Island .....	131	1 068	865	25 186	19 069	1 272	79 431	76 902
South Carolina .....	424	3 241	2 966	35 679	31 782	4 265	94 081	86 773
South Dakota .....	50	292	265	4 566	4 235	345	9 167	9 146
Tennessee .....	470	4 794	4 437	60 634	52 709	6 312	151 393	144 433
Texas .....	1 165	9 084	7 867	141 821	111 718	11 184	430 236	399 996
Utah .....	216	955	843	13 810	11 843	1 162	45 818	43 124
Vermont .....	83	431	359	7 646	6 084	609	22 601	21 198
Virginia .....	1 022	8 902	8 120	137 473	115 343	11 753	369 628	353 914
Washington .....	338	1 300	1 138	26 656	21 392	1 637	95 384	90 912
West Virginia .....	140	484	443	5 584	4 909	508	12 511	11 844
Wisconsin .....	482	2 660	2 322	51 728	44 150	3 644	156 069	150 161
Wyoming .....	40	137	120	1 647	1 413	100	5 124	4 924

†In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



1987—Con.						1982			Relative standard error of estimate (percent) for column—			Location of establishment
Value added††	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings	Capital expenditures, other than land	End-of-year gross book value of depreciable assets	All employees**	Total construction receipts¹	Value added††				
I	J	K	L	M	N	O	P	Q	B	H	M	
5 475 753	2 857 863	444 973	116 663	157 073	924 180	120 600	4 269 394	2 667 213	1	1	3	U.S.
58 742 (S)	37 059 (S)	7 522 (S)	1 775 (D)	1 134 (S)	8 378 (S)	1 465 (S)	27 653 (S)	16 363 (S)	5 (S)	6 (S)	36 (S)	AL
113 906	73 000	5 464	3 278	2 202	18 788	2 700	96 409	54 150	4	4	14	AZ
20 176	7 359	606	211	*216	*2 751	936	22 784	14 831	14	20	69	AR
501 296	315 550	57 592	10 586	9 182	71 818	7 360	332 914	196 273	3	2	9	CA
63 318	34 231	3 392	1 849	1 366	15 996	2 642	97 425	57 360	6	6	36	CO
106 084	51 949	7 553	2 397	2 440	13 179	1 373	54 310	34 586	4	4	16	CT
37 803	20 693	3 316	450	1 710	8 267	792	26 124	15 822	10	10	18	DE
3 348	1 935	176	(D)	(D)	(D)	(S)	(S)	(S)	3	1	(D)	DC
226 009	125 994	26 546	5 984	8 448	40 324	7 272	206 000	121 085	3	4	12	FL
81 550	(D)	4 498	2 341	2 893	12 295	3 066	71 342	42 821	5	4	18	GA
28 160	(D)	772	730	763	4 176	426	17 277	11 611	7	11	14	HI
5 612	5 640	*290	21	(S)	*1 314	334	10 922	4 952	20	16	(S)	ID
313 376	152 065	20 005	4 498	8 134	52 585	5 982	275 753	195 215	3	2	9	IL
121 124	46 306	9 323	1 556	3 710	19 714	2 118	67 826	44 846	5	6	19	IN
35 000	18 612	1 360	220	1 756	12 549	1 010	38 898	22 181	11	9	24	IA
39 077	14 853	3 456	298	1 552	7 191	1 008	28 754	18 833	9	8	31	KS
48 133	(D)	5 349	1 526	1 342	7 623	1 736	43 132	26 270	7	5	17	KY
56 548	(D)	*4 930	1 504	286	8 828	2 309	92 650	57 628	10	18	25	LA
34 530	15 161	896	1 055	1 409	13 218	568	21 304	13 375	10	9	23	ME
269 277	131 420	11 894	3 611	7 760	39 137	5 339	190 386	122 971	3	4	10	MD
201 844	90 900	7 262	4 866	6 198	30 115	2 819	140 551	85 573	4	4	12	MA
177 002	82 766	9 005	2 890	6 733	29 263	2 961	106 293	66 414	3	3	12	MI
108 529	69 307	5 990	1 436	2 646	18 680	1 703	74 168	42 170	5	4	21	MN
13 031	5 085	*4 550	*698	*456	2 666	510	7 791	5 338	11	16	47	MS
149 744	67 320	4 731	1 329	4 237	26 515	3 322	116 525	84 799	4	4	13	MO
5 538	3 958	*133	*173	(D)	*980	277	10 106	6 151	20	15	(D)	MT
18 807	9 037	1 304	296	774	6 447	763	21 365	12 949	16	14	35	NE
32 621	24 129	*863	551	*1 817	7 011	531	23 624	13 452	10	12	45	NV
32 393	16 332	1 404	1 022	1 267	5 735	(S)	(S)	(S)	10	9	21	NH
328 876	182 811	45 752	8 309	12 469	58 432	5 154	199 634	122 025	3	3	10	NJ
18 718	10 683	1 495	88	517	5 747	644	22 561	13 634	13	10	36	NM
472 945	215 878	41 832	11 244	11 894	66 034	7 065	354 516	211 101	3	3	10	NY
154 956	64 242	12 214	3 130	6 310	33 652	4 204	70 386	45 307	4	5	13	NC
6 882	4 174	1 286	*147	*254	*499	265	9 320	5 508	18	16	55	ND
236 160	125 024	23 404	5 294	9 422	38 245	4 532	172 837	110 049	4	4	14	OH
12 162	6 905	276	73	*478	4 370	1 375	46 337	29 993	17	15	41	OK
25 279	(D)	1 460	547	221	4 807	494	19 391	11 870	8	8	22	OR
403 016	210 310	28 909	6 894	12 178	58 682	7 453	295 665	191 008	3	4	10	PA
52 490	24 505	2 528	917	1 636	6 587	661	33 452	24 142	6	7	18	RI
62 445	26 632	7 308	1 212	1 186	7 606	2 010	36 416	23 321	6	6	27	SC
6 668	2 679	*21	16	(D)	*1 595	310	10 883	5 787	19	21	(D)	SD
95 205	50 196	6 960	1 796	2 345	13 364	2 646	76 901	53 426	7	6	17	TN
256 004	147 347	30 240	10 277	3 810	53 779	11 162	346 693	220 860	4	3	17	TX
28 688	16 278	*2 694	1 108	*1 181	9 488	1 022	32 168	16 698	11	11	45	UT
13 982	(D)	1 402	531	895	*4 272	230	6 858	4 486	15	20	32	VT
240 392	115 856	15 714	4 450	6 681	39 510	5 305	136 672	82 926	3	5	11	VA
53 232	37 880	4 471	1 298	1 162	9 427	1 236	48 465	27 976	7	7	28	WA
9 265	(D)	*667	192	*76	2 155	497	14 087	10 374	17	17	46	WV
92 226	59 980	5 907	1 774	3 504	19 154	1 975	73 395	43 588	5	4	18	WI
2 736	(D)	*195	*43	(D)	(D)	326	9 433	6 365	20	19	(D)	WY

**Table 2. Detailed Statistics for Establishments With Payroll: 1987 and Earlier Census Years**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	1977	1972	Relative standard error of estimate (percent)			
					1987	1982	1977	1972
Number of establishments in business during year .....	23 284	20 188	24 815	23 896	1	1	1	2
Proprietors and working partners .....	9 689	10 954	19 568	20 444	2	2	2	3
All employees** .....	168 978	120 600	152 167	165 580	1	1	1	2
Construction workers:								
March .....	133 944	93 633	124 832	136 579	1	1	1	2
May .....	152 448	111 019	148 859	157 245	1	1	1	2
August .....	162 914	115 403	154 352	168 130	1	1	1	2
November .....	152 007	108 733	142 600	154 054	1	1	1	2
Average .....	150 308	109 576	142 797	156 395	1	1	1	2
Other employees:								
March .....	18 697	10 940	8 810	8 745	1	2	1	3
May .....	18 112	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
August .....	19 051	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
November .....	18 792	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Average .....	18 670	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Construction worker hours (thousands):								
January to March .....	45 878	29 556	(NA)	(NA)	1	2	(NA)	(NA)
April to June .....	56 951	36 982	(NA)	(NA)	1	1	(NA)	(NA)
July to September .....	62 005	39 930	(NA)	(NA)	1	1	(NA)	(NA)
October to December .....	56 674	36 269	(NA)	(NA)	1	1	(NA)	(NA)
Total hours worked .....	221 510	142 739	(NA)	(NA)	1	1	(NA)	(NA)
Payroll, all employees .....	2 946 997	1 550 759	1 493 214	1 310 777	1	1	1	2
Payroll, construction workers .....	2 461 628	1 344 228	1 350 307	1 199 012	1	1	1	2
Payroll, other employees .....	485 369	206 530	142 907	111 765	1	1	1	2
First quarter payroll, all employees .....	597 856	306 934	285 349	(NA)	1	1	1	(NA)
Employer costs for fringe benefits, all employees .....	679 235	286 650	279 356	(NA)	1	1	1	(NA)
Legally required expenditures .....	503 394	231 630	173 975	(NA)	1	1	1	(NA)
Voluntary expenditures .....	175 841	55 020	105 381	(NA)	1	1	1	(NA)
Dollar value of business done .....	8 778 589	4 332 628	3 805 140	3 104 947	1	1	1	2
Value of construction work <sup>1</sup> .....	8 714 161	4 269 394	3 775 368	3 085 759	1	1	1	2
Value of construction work subcontracted in from others .....	5 477 793	2 686 043	2 627 600	1 903 196	1	1	1	3
Land receipts <sup>2</sup> .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Other business receipts .....	64 428	63 233	29 772	19 188	5	4	3	2
Net value of construction work† .....	8 269 188	4 046 361	3 677 609	2 978 082	1	1	1	2
Value added†† .....	5 475 753	2 667 213	2 416 694	2 056 925	1	1	1	2
Selected costs .....	3 302 836	1 665 414	1 388 446	1 048 022	1	1	1	3
Materials, components, and supplies <sup>3</sup> .....	2 715 354	1 353 242	1 219 639	940 345	1	1	1	2
Construction work subcontracted to others .....	444 973	223 033	97 760	107 677	3	3	1	8
Selected power, fuels, and lubricants .....	142 508	89 138	71 048	(NA)	1	2	1	(NA)
Electricity .....	13 033	7 958	6 153	(NA)	2	3	2	(NA)
Natural gas .....	3 173	2 407	3 575	(NA)	4	6	2	(NA)
Gasoline and diesel fuel .....	116 154	72 022	54 494	(NA)	1	1	1	(NA)
On highway use .....	100 806	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Off highway use .....	15 348	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
Other, including lubricating oils and greases .....	10 147	6 750	6 826	(NA)	3	4	3	(NA)
Rental cost for machinery, equipment, and buildings .....	116 663	51 370	32 922	(NA)	2	2	1	(NA)
For machinery and equipment .....	88 303	38 067	26 351	24 705	2	2	1	3
For buildings .....	28 360	13 303	6 571	(NA)	3	3	2	(NA)
Selected purchased services .....	119 315	69 479	72 596	(NA)	2	1	6	(NA)
Communication services .....	34 524	21 401	24 836	(NA)	2	2	15	(NA)
Repairs to buildings and other structures .....	5 589	4 171	2 969	(NA)	6	3	5	(NA)
Repairs to machinery and equipment .....	79 200	43 907	44 791	(NA)	2	2	6	(NA)
Ownership of construction projects:								
Value of construction work <sup>1</sup> .....	8 714 161	4 269 394	3 775 368	3 085 759	1	1	1	2
Government owned .....	1 194 727	524 282	499 223	582 344	3	5	1	3
Federal .....	308 449	(NA)	(NA)	(NA)	5	(NA)	(NA)	(NA)
State and local .....	886 278	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
Privately owned .....	7 519 433	3 745 112	3 276 146	2 503 415	1	1	1	2

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

<sup>2</sup>Data were collected separately for establishments classified in SIC 1531, Operative Builders, and SIC 6552, Subdividers and Developers, Except Cemeteries. For all other industries, data are included in other business receipts.

<sup>3</sup>For 1972, includes data for power, fuels, and lubricants.



**Table 3. Assets, Capital Expenditures, and Depreciation for Establishments With Payroll: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	Relative standard error of estimate (percent)	
			1987	1982
BUILDINGS AND OTHER STRUCTURES, MACHINERY, AND EQUIPMENT				
Beginning-of-year gross book value of depreciable assets -----	801 900	795 354	2	1
Capital expenditures, other than land -----	157 073	72 032	3	3
New -----	119 327	51 923	3	3
Used -----	37 746	20 108	5	5
Retirements and disposition of depreciable assets -----	34 793	27 626	6	6
End-of-year gross book value of depreciable assets -----	924 180	839 760	2	2
Depreciation charges during year -----	120 744	113 835	2	2
Buildings and other Structures, Additions, and Related Facilities				
Beginning-of-year gross book value of depreciable assets -----	141 265	99 702	5	4
Capital expenditures, other than land -----	16 014	7 684	8	6
New buildings and other structures -----	7 914	5 214	8	6
Used buildings and other structures -----	8 099	2 470	14	10
Retirements and disposition of depreciable assets -----	2 819	3 301	34	30
End-of-year gross book value of depreciable assets -----	154 459	104 085	5	3
Depreciation charges during year -----	11 806	12 808	5	8
Machinery and Equipment				
Beginning-of-year gross book value of depreciable assets -----	660 635	695 652	2	1
Capital expenditures, other than land -----	141 059	64 347	3	3
New machinery and equipment, including automobiles and trucks -----	111 412	46 709	3	3
New automobiles and trucks, intended primarily for highway use -----	61 622	23 700	4	4
Used machinery and equipment, including automobiles and trucks -----	29 646	17 638	5	5
Retirements and disposition of depreciable assets -----	31 973	24 324	6	4
End-of-year gross book value of depreciable assets -----	769 720	735 674	2	1
Depreciation charges during year -----	108 938	101 026	2	1

**Table 4. Value of Inventories for Establishments With Payroll: 1987 and 1986**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Establishments with payroll	Relative standard error of estimate (percent)
All establishments:		
Number .....	23 284	1
Value of construction work .....	8 714 161	1
Establishments with inventories:		
Number .....	3 083	4
Value of construction work .....	2 325 956	2
Inventories <sup>1</sup> :		
End of 1987, materials and supplies .....	50 192	5
End of 1986, materials and supplies .....	45 373	4
Establishments with no inventories:		
Number .....	15 996	2
Value of construction work .....	4 775 764	2
Establishments not reporting:		
Number .....	4 205	4
Value of construction work .....	1 612 441	4

<sup>1</sup>Inventories at cost or market prior to any adjustment to correct to LIFO values.

**Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with an average of—								
		1 to 4 employees	5 to 9 employees	10 to 19 employees	20 to 49 employees	50 to 99 employees	100 to 249 employees	250 to 499 employees	500 to 999 employees	1,000 employees or more
<b>1987</b>										
Number of establishments .....	23 284	13 698	5 590	2 495	1 123	268	86	19	4	-
All employees** .....	168 978	28 051	35 095	32 545	33 756	18 196	12 555	6 365	2 411	-
Payroll, all employees .....	2 946 997	328 351	519 247	564 273	699 084	402 610	274 977	118 310	40 144	-
Construction worker hours (thousands) .....	221 510	34 900	44 212	42 016	44 700	26 588	17 680	8 269	3 141	-
Dollar value of business done .....	8 778 589	1 313 443	1 603 012	1 639 167	1 928 658	1 095 131	731 688	374 628	92 860	-
Value of construction work <sup>1</sup> .....	8 714 161	1 306 072	1 595 457	1 630 143	1 904 217	1 087 248	725 021	466 001	(D)	-
Net value of construction work† .....	8 269 188	1 239 585	1 506 312	1 543 465	1 813 528	1 045 778	681 885	438 633	(D)	-
Value added†† .....	5 475 753	800 696	1 012 451	1 019 427	1 214 306	701 739	440 109	220 120	66 903	-
Cost of materials, components, supplies, and fuels .....	2 857 863	446 260	501 416	533 061	623 662	351 922	248 443	153 097	(D)	-
Cost of construction work subcontracted to others .....	444 973	66 486	89 145	86 678	90 689	41 469	43 136	27 368	(D)	-
Rental cost for machinery, equipment, and buildings .....	116 663	14 992	15 078	23 246	27 474	16 975	9 864	7 491	1 542	-
Capital expenditures, other than land .....	157 073	33 814	33 251	32 448	30 489	14 699	10 235	1 636	498	-
End-of-year gross book value of depreciable assets .....	924 180	177 499	180 683	193 285	198 469	92 871	58 806	22 564	(D)	-
<b>1982</b>										
All employees** .....	120 600	27 800	21 992	22 101	23 628	11 380	8 151	3 377	2 171	-
Total construction receipts <sup>1</sup> .....	4 269 394	791 888	664 421	761 951	914 412	532 434	402 369	201 918	(D)	-
Value added†† .....	2 667 213	479 804	402 593	466 524	579 220	340 946	249 907	148 218	(D)	-
<b>1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)</b>										
All employees** .....	1	2	3	3	2	1	(W)	(W)	(W)	-
Net value of construction work† .....	1	2	3	3	1	(W)	(W)	(W)	(D)	-
Capital expenditures, other than land .....	3	7	8	6	4	2	(W)	(W)	(W)	-

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

**Table 6. Selected Statistics by Size Class of the Dollar Value of Business Done for Establishments With Payroll: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with dollar value of business done									
		Less than \$25,000	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 to \$2,499,999	\$2,500,000 to \$4,999,999	\$5,000,000 to \$9,999,999	\$10,000,000 or more
<b>1987</b>											
Number of establishments .....	23 284	(S)	(S)	4 987	7 009	3 073	1 728	1 191	389	131	49
All employees** .....	168 978	(S)	(S)	13 367	30 594	23 067	22 464	28 719	20 116	12 082	11 900
Payroll, all employees .....	2 946 997	(S)	(S)	116 848	380 909	368 867	412 254	598 127	460 657	296 979	272 011
Construction worker hours (thousands) .....	221 510	(S)	(S)	15 496	38 590	29 151	30 241	38 916	28 605	17 406	16 661
Dollar value of business done .....	8 778 589	(S)	(S)	362 778	1 115 177	1 074 343	1 206 665	1 803 817	1 330 647	902 721	850 960
Value of construction work <sup>1</sup> .....	8 714 161	(S)	(S)	361 117	1 110 179	1 067 988	1 200 442	1 788 101	1 319 029	892 784	843 482
Net value of construction work† .....	8 269 188	(S)	(S)	349 270	1 072 044	1 023 271	1 129 295	1 691 631	1 256 680	840 593	778 599
Value added†† .....	5 475 753	(S)	(S)	243 354	721 356	674 379	718 990	1 126 584	842 515	553 690	506 540
Cost of materials, components, supplies, and fuels .....	2 857 863	(S)	(S)	107 576	355 686	355 247	416 529	580 763	425 784	296 839	279 537
Cost of construction work subcontracted to others .....	444 973	(S)	(S)	11 846	38 134	44 716	71 146	96 470	62 348	52 191	64 883
Rental cost for machinery, equipment, and buildings .....	116 663	(S)	(S)	2 283	11 798	12 156	18 037	25 784	19 062	13 223	13 221
Capital expenditures, other than land .....	157 073	(S)	(S)	8 213	30 805	22 623	25 186	31 478	18 135	10 128	7 570
End-of-year gross book value of depreciable assets .....	924 180	(S)	(S)	45 949	168 943	129 357	145 165	181 434	109 337	66 197	55 913
<b>1982</b>											
All employees** .....	120 600	5 146	8 523	14 593	22 797	14 925	15 137	16 426	11 259	6 686	5 106
Total construction receipts <sup>1</sup> .....	4 269 394	46 843	143 232	334 504	641 151	509 755	605 565	768 472	544 380	351 560	323 931
Value added†† .....	2 667 213	30 150	91 562	206 035	391 622	306 838	373 879	475 077	355 738	224 901	211 409
<b>1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)</b>											
All employees** .....	1	(S)	(S)	4	3	4	3	2	1	(W)	(W)
Net value of construction work† .....	1	(S)	(S)	3	3	4	3	3	2	1	(W)
Capital expenditures, other than land .....	3	(S)	(S)	10	8	10	8	5	3	7	(W)

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



**Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Type of construction	Value of construction work <sup>1</sup>				Relative standard error of estimate (percent) for column—			
	Total	New construction	Additions, alterations, or reconstruction <sup>2</sup>	Maintenance and repair				
	A	B	C	D	A	B	C	D
<b>1987</b>								
Value of construction work <sup>1</sup> .....	8 714 161	6 471 704	1 174 307	813 761	1	1	3	2
<b>Building construction</b> .....	8 081 409	6 301 397	1 129 342	650 669	1	1	3	2
Single-family houses .....	2 738 184	2 276 294	295 576	166 314	2	2	4	5
Single-family houses, detached .....	2 267 304	1 868 222	260 474	138 608	2	2	4	5
Single-family houses, attached .....	470 880	408 072	35 102	27 706	4	5	9	8
Apartment buildings with two or more apartments .....	499 486	405 449	57 086	36 949	2	2	8	6
Other residential buildings, including hotels and motels .....	314 584	235 417	45 764	33 402	4	4	11	7
Hotels and motels .....	172 483	139 265	21 002	12 215	2	2	14	8
Other residential buildings, excluding hotels and motels .....	142 101	96 152	24 762	21 187	8	9	16	11
Office buildings .....	1 100 895	894 343	142 764	63 787	1	1	8	4
Other commercial buildings such as stores, restaurants, and automobile service stations .....	1 089 345	873 059	154 035	62 250	2	2	4	6
Industrial buildings and warehouses .....	1 063 764	765 231	132 866	165 666	2	2	4	4
Industrial buildings .....	757 114	507 539	97 927	151 647	2	2	5	4
Warehouses .....	306 650	257 692	34 939	14 019	3	3	6	9
Religious buildings .....	178 526	94 685	51 346	32 494	3	4	7	7
Educational buildings .....	540 660	371 822	130 628	38 209	3	3	6	6
Hospitals and institutional buildings .....	340 159	230 854	75 730	33 575	3	3	6	9
Amusement, social, and recreational buildings .....	86 755	59 590	*23 309	3 854	17	10	56	28
Other nonresidential buildings .....	129 051	94 653	20 238	14 169	4	3	16	12
<b>Nonbuilding construction</b> .....	378 364	170 307	44 964	163 092	4	6	7	4
Heavy industrial facilities .....	187 786	33 113	16 293	138 379	4	6	15	4
Blast furnaces, petroleum refineries, and chemical complexes .....	128 396	26 435	8 091	93 869	4	8	28	4
Power plants .....	59 390	6 677	8 202	44 510	6	3	11	7
Other nonbuilding construction .....	190 578	137 194	28 671	24 713	14	18	12	14
<b>Construction work, n.s.k.</b> .....	254 388	(NA)	(NA)	(NA)	6	(NA)	(NA)	(NA)
<b>1982</b>								
Value of construction work <sup>1</sup> .....	4 269 394	3 438 272	(NA)	831 121	1	1	(NA)	2
<b>Building construction</b> .....	3 713 984	3 045 073	(NA)	668 911	1	1	(NA)	1
Single-family houses .....	951 159	781 890	(NA)	169 268	2	2	(NA)	3
Single-family houses, detached .....	768 497	621 282	(NA)	147 215	2	2	(NA)	4
Single-family houses, attached .....	182 661	160 607	(NA)	22 053	4	4	(NA)	6
Apartment buildings with two or more apartments .....	268 907	237 106	(NA)	31 801	3	3	(NA)	4
Other residential buildings, including hotels and motels .....	128 822	115 231	(NA)	13 590	2	2	(NA)	5
Hotels and motels .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Other residential buildings, excluding hotels and motels .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Office buildings .....	707 322	583 400	(NA)	123 922	1	1	(NA)	1
Other commercial buildings such as stores, restaurants, and automobile service stations .....	317 073	240 753	(NA)	76 319	2	3	(NA)	3
Industrial buildings and warehouses .....	690 172	552 279	(NA)	137 893	1	2	(NA)	4
Industrial buildings .....	534 979	414 521	(NA)	120 458	2	2	(NA)	5
Warehouses .....	155 193	137 758	(NA)	17 435	3	3	(NA)	8
Religious buildings .....	87 525	62 401	(NA)	25 123	3	5	(NA)	4
Educational buildings .....	242 051	200 189	(NA)	41 862	3	3	(NA)	4
Hospitals and institutional buildings .....	232 787	199 701	(NA)	33 085	2	2	(NA)	14
Farm buildings .....	10 773	8 185	(NA)	2 588	13	12	(NA)	17
Amusement, social, and recreational buildings .....	35 089	29 400	(NA)	5 688	6	6	(NA)	12
Other nonresidential buildings .....	42 298	34 533	(NA)	7 765	6	6	(NA)	8
<b>Nonbuilding construction</b> .....	232 610	116 014	(NA)	116 595	3	5	(NA)	2
Highways, streets, and related facilities .....	25 773	20 793	(NA)	4 979	12	14	(NA)	16
Heavy industrial facilities .....	130 796	48 460	(NA)	82 336	2	5	(NA)	2
Blast furnaces, petroleum refineries, and chemical complexes .....	78 625	22 954	(NA)	55 670	4	11	(NA)	3
Power plants .....	52 171	25 505	(NA)	26 666	2	3	(NA)	2
Sewage treatment and water treatment plants .....	19 265	14 862	(NA)	4 402	4	5	(NA)	7
Other nonbuilding construction .....	56 762	31 894	(NA)	24 874	7	15	(NA)	7
<b>Construction work, n.s.k.</b> .....	322 799	277 184	(NA)	45 615	4	4	(NA)	4

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

<sup>2</sup>In 1982, data for additions, alterations, or reconstruction were collected separately for SIC 1521, 1522, 1531, 1541, and 1542. For all other industries, data are included with "New construction."



**Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987**

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Number of establishments	All employees**	Payroll, all employees	Value of construction work		Net value of construction work†	Value added††	Cost of construction work sub-contracted to others	Relative standard error of estimate (percent) for column—		
				For all types	For specialized type				B	D	H
A	B	C	D	E	F	G	H	B	D	H	
All establishments -----	23 284	168 978	2 946 997	8 714 161	4 765 943	8 269 188	5 475 753	444 973	1	1	3
Establishments not specializing by type -----	4 534	57 353	1 118 118	3 116 958	(NA)	2 962 665	1 996 312	154 293	1	1	4
Establishments specializing 51 percent or more -----	18 750	111 625	1 828 879	5 597 202	4 765 943	5 306 523	3 479 441	290 679	1	1	6
SINGLE-FAMILY HOUSES, DETACHED											
All establishments specializing in type -----	11 666	47 720	664 466	2 171 594	1 912 070	2 073 172	1 337 495	98 422	2	2	6
Establishments with —											
100 percent specialization -----	6 382	22 971	305 500	1 027 919	1 027 919	988 034	640 000	39 885	3	4	9
90 to 99 percent specialization -----	1 963	8 267	107 858	318 773	295 276	309 660	205 708	9 113	6	6	12
80 to 89 percent specialization -----	1 307	6 285	90 675	297 283	242 997	290 176	190 664	7 107	6	8	13
70 to 79 percent specialization -----	1 171	5 591	79 091	240 571	176 656	229 375	150 220	11 196	7	6	28
60 to 69 percent specialization -----	765	3 569	52 440	181 595	112 750	(D)	101 497	(D)	8	9	(D)
51 to 59 percent specialization -----	75	1 034	28 899	105 451	56 470	(D)	49 404	(D)	10	4	(D)
SINGLE-FAMILY HOUSES, ATTACHED											
All establishments specializing in type -----	1 001	4 797	79 506	250 066	222 213	232 386	147 323	17 679	6	8	39
Establishments with —											
100 percent specialization -----	513	2 035	33 347	105 184	105 184	100 562	63 140	4 622	10	10	16
90 to 99 percent specialization -----	160	793	15 555	57 474	53 910	47 232	28 688	*10 242	16	28	66
80 to 89 percent specialization -----	111	679	9 880	22 408	18 104	21 949	14 804	458	18	18	24
70 to 79 percent specialization -----	173	828	12 483	42 629	31 343	41 053	25 711	*1 576	16	16	67
60 to 69 percent specialization -----	43	460	8 239	22 369	13 671	21 590	14 979	779	20	18	16
51 to 59 percent specialization -----	-	-	-	-	-	-	-	-	-	-	-
APARTMENT BUILDINGS WITH TWO OR MORE APARTMENTS											
All establishments specializing in type -----	496	5 377	96 950	309 352	240 461	287 023	195 197	22 328	6	4	10
Establishments with —											
100 percent specialization -----	170	1 493	30 345	76 020	76 020	72 929	48 207	3 091	9	6	7
90 to 99 percent specialization -----	47	473	8 603	27 248	25 106	(D)	16 181	(D)	15	17	(D)
80 to 89 percent specialization -----	34	859	15 259	41 691	34 028	39 696	28 981	1 994	11	10	33
70 to 79 percent specialization -----	189	1 204	16 006	62 901	44 694	56 829	38 935	6 071	18	12	21
60 to 69 percent specialization -----	47	1 182	21 770	76 965	47 290	71 352	44 072	5 612	10	7	7
51 to 59 percent specialization -----	6	164	4 966	24 525	13 321	(D)	18 818	(D)	18	4	(D)
OTHER RESIDENTIAL BUILDINGS, EXCLUDING HOTELS AND MOTELS											
All establishments specializing in type -----	168	1 164	19 640	66 936	49 895	56 559	36 095	*10 376	15	18	41
Establishments with —											
100 percent specialization -----	77	433	4 829	*19 015	*19 015	16 372	7 342	*2 642	34	41	65
90 to 99 percent specialization -----	8	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
80 to 89 percent specialization -----	4	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
70 to 79 percent specialization -----	*29	259	5 420	11 857	8 476	11 508	7 704	349	14	18	12
60 to 69 percent specialization -----	27	290	4 334	14 028	8 714	11 959	8 886	*2 068	25	28	71
51 to 59 percent specialization -----	*21	130	4 118	*16 899	*9 079	11 660	8 733	*5 239	19	45	69
OFFICE BUILDINGS											
All establishments specializing in type -----	438	9 842	220 937	655 280	518 065	627 861	401 971	27 419	3	3	5
Establishments with —											
100 percent specialization -----	117	1 854	38 480	109 895	109 895	104 465	70 766	5 430	8	5	4
90 to 99 percent specialization -----	46	1 529	38 174	127 667	119 607	125 356	77 254	2 311	4	2	2
80 to 89 percent specialization -----	43	1 484	33 779	102 818	84 725	95 852	58 710	6 966	6	4	3
70 to 79 percent specialization -----	82	1 701	44 247	138 984	99 798	131 483	82 646	7 500	6	11	16
60 to 69 percent specialization -----	113	2 703	50 955	132 395	80 591	128 925	86 496	3 470	5	4	15
51 to 59 percent specialization -----	35	568	15 300	43 519	23 447	41 778	26 096	1 741	7	4	8
OTHER COMMERCIAL BUILDINGS SUCH AS STORES, RESTAURANTS, AND AUTOMOBILE SERVICE STATIONS											
All establishments specializing in type -----	1 231	11 243	196 187	569 717	473 590	535 953	358 675	33 764	4	4	11
Establishments with —											
100 percent specialization -----	381	3 804	69 111	214 402	214 402	197 815	133 907	16 586	7	7	19
90 to 99 percent specialization -----	163	964	15 137	38 039	35 348	35 909	24 031	2 129	14	12	30
80 to 89 percent specialization -----	179	1 757	30 059	91 205	75 349	88 018	58 021	3 186	11	11	22
70 to 79 percent specialization -----	244	2 411	41 106	114 852	82 532	108 538	72 551	6 314	8	8	12
60 to 69 percent specialization -----	155	1 380	26 028	71 551	44 223	67 072	44 501	4 479	11	10	26
51 to 59 percent specialization -----	106	924	14 744	39 666	21 733	38 599	25 662	1 067	18	19	27
INDUSTRIAL BUILDINGS											
All establishments specializing in type -----	715	8 800	161 568	426 587	365 532	405 580	276 099	21 006	3	3	4
Establishments with —											
100 percent specialization -----	302	4 610	78 129	208 850	208 850	196 706	138 097	12 144	3	4	4
90 to 99 percent specialization -----	53	349	6 964	14 690	13 523	14 521	10 954	168	23	19	35
80 to 89 percent specialization -----	130	1 090	19 947	56 363	47 044	54 513	34 737	1 849	12	8	13
70 to 79 percent specialization -----	92	1 293	24 870	65 396	47 286	61 001	39 592	4 394	12	10	12
60 to 69 percent specialization -----	88	1 109	23 159	60 520	37 394	58 716	39 633	1 804	10	8	15
51 to 59 percent specialization -----	48	348	8 497	20 766	11 433	20 121	13 084	*645	15	12	41



**Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987—Con.**

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Number of establishments	All employees**	Payroll, all employees	Value of construction work		Net value of construction work†	Value added††	Cost of construction work sub-contracted to others	Relative standard error of estimate (percent) for column—		
				For all types	For specialized type				B	D	H
A	B	C	D	E	F	G	H	B	D	H	
WAREHOUSES											
All establishments specializing in type .....	106	1 361	25 490	75 479	53 917	68 870	49 933	6 609	13	11	5
Establishments with —											
100 percent specialization .....	25	*131	1 593	4 115	4 115	(D)	3 146	(D)	41	40	(D)
90 to 99 percent specialization .....	*3	*92	*1 732	*5 371	*4 834	*5 371	*4 619	—	58	58	—
80 to 89 percent specialization .....	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
70 to 79 percent specialization .....	44	663	11 113	33 209	24 300	32 412	24 173	797	20	15	11
60 to 69 percent specialization .....	30	404	9 408	28 201	17 376	23 159	15 647	5 041	21	20	6
51 to 59 percent specialization .....	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
EDUCATIONAL BUILDINGS											
All establishments specializing in type .....	309	5 417	98 514	262 821	200 669	256 008	175 816	6 812	7	6	5
Establishments with —											
100 percent specialization .....	85	719	12 032	27 402	27 402	27 122	17 998	279	9	10	19
90 to 99 percent specialization .....	42	1 221	17 559	49 237	46 131	46 074	30 977	3 163	26	18	8
80 to 89 percent specialization .....	33	595	12 370	51 218	41 910	50 331	39 125	886	21	18	21
70 to 79 percent specialization .....	63	923	18 107	41 893	30 524	41 183	28 046	709	12	10	11
60 to 69 percent specialization .....	59	1 265	22 997	56 361	34 706	55 245	37 130	1 116	12	7	14
51 to 59 percent specialization .....	26	692	15 447	36 708	19 994	36 051	22 539	657	10	9	4
HOSPITALS AND INSTITUTIONAL BUILDINGS											
All establishments specializing in type .....	116	1 977	38 691	107 498	77 687	99 079	68 160	8 418	12	9	14
Establishments with —											
100 percent specialization .....	*9	(D)	3 276	9 790	9 790	(D)	5 069	(D)	(D)	22	(D)
90 to 99 percent specialization .....	*3	(D)	1 704	6 033	5 430	(D)	4 005	(D)	(D)	30	(D)
80 to 89 percent specialization .....	26	438	9 555	21 917	17 533	19 936	14 753	1 981	28	14	38
70 to 79 percent specialization .....	17	340	4 825	17 777	13 132	16 509	10 620	*1 268	33	31	42
60 to 69 percent specialization .....	41	674	13 801	39 952	25 288	37 107	26 053	2 844	20	13	22
51 to 59 percent specialization .....	*18	246	5 527	12 027	6 511	11 573	7 658	453	26	27	35
BLAST FURNACES, PETROLEUM REFINERIES, AND CHEMICAL COMPLEXES											
All establishments specializing in type .....	91	2 253	43 912	132 482	121 326	126 443	80 728	6 039	9	5	3
Establishments with —											
100 percent specialization .....	68	1 530	27 661	78 195	78 195	74 349	48 620	3 845	13	6	4
90 to 99 percent specialization .....	6	350	5 185	21 874	19 872	20 627	13 379	1 247	(W)	(W)	(W)
80 to 89 percent specialization .....	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
70 to 79 percent specialization .....	*4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
60 to 69 percent specialization .....	*10	128	3 161	11 444	6 989	*10 893	6 627	550	39	37	20
51 to 59 percent specialization .....	—	—	—	—	—	—	—	—	—	—	—

# Table 9. Quarterly Construction Worker Hours and Employment for Establishments With

[Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Number of establishments	Average number of construction workers	Construction worker hours (thousands)	January to March		April to June	
				Construction workers <sup>1</sup>	Hours worked (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)
	A	B	C	D	E	F	G
<b>United States -----</b>	<b>23 284</b>	<b>150 308</b>	<b>221 510</b>	<b>133 944</b>	<b>45 878</b>	<b>152 448</b>	<b>56 951</b>
Alabama -----	336	3 186	4 468	3 100	1 031	3 221	1 081
Alaska -----	6	(S)	(S)	(S)	(S)	(S)	(S)
Arizona -----	368	3 520	5 341	3 262	1 206	3 612	1 404
Arkansas -----	187	806	1 137	756	272	868	299
California -----	1 536	11 035	16 232	9 949	3 530	10 857	4 109
Colorado -----	300	1 794	2 418	1 592	530	1 838	638
Connecticut -----	448	2 348	3 602	1 922	708	2 496	988
Delaware -----	135	1 060	1 541	1 002	316	1 035	383
District of Columbia -----	11	88	125	80	26	93	31
Florida -----	1 244	8 366	12 870	8 196	3 068	8 589	3 269
Georgia -----	524	3 739	5 200	3 447	1 045	3 704	1 342
Hawaii -----	82	481	725	455	171	471	193
Idaho -----	83	234	242	125	35	281	83
Illinois -----	946	6 723	10 432	5 661	2 012	6 827	2 731
Indiana -----	473	2 680	4 222	2 320	828	2 683	1 055
Iowa -----	179	1 023	1 543	672	238	914	398
Kansas -----	223	1 107	1 587	960	303	1 168	422
Kentucky -----	347	1 868	2 599	1 593	531	1 855	665
Louisiana -----	202	1 732	1 988	1 745	523	1 710	463
Maine -----	198	961	1 686	957	356	945	432
Maryland -----	675	7 989	11 632	7 389	2 428	7 936	2 843
Massachusetts -----	703	4 362	6 283	3 587	1 184	4 478	1 668
Michigan -----	746	3 792	5 814	3 064	1 066	4 013	1 542
Minnesota -----	438	2 455	3 739	1 841	576	2 508	984
Mississippi -----	200	796	1 311	687	251	761	316
Missouri -----	545	4 387	5 474	3 970	1 139	4 503	1 363
Montana -----	68	163	189	138	39	144	47
Nebraska -----	180	785	1 099	630	185	783	280
Nevada -----	106	761	1 038	708	222	684	277
New Hampshire -----	205	890	1 279	827	260	889	334
New Jersey -----	1 204	6 682	10 626	5 537	1 913	7 204	2 933
New Mexico -----	114	654	830	643	213	686	198
New York -----	1 593	9 662	14 841	8 119	2 960	10 149	3 966
North Carolina -----	1 139	6 606	9 164	6 621	2 156	6 655	2 369
North Dakota -----	75	234	335	169	52	240	96
Ohio -----	1 099	6 549	10 135	5 182	1 839	6 640	2 582
Oklahoma -----	123	471	681	465	155	492	190
Oregon -----	169	596	882	484	146	509	200
Pennsylvania -----	1 493	9 924	15 349	7 827	2 692	10 112	3 958
Rhode Island -----	131	865	1 272	641	188	854	344
South Carolina -----	424	2 966	4 265	2 910	1 142	2 917	966
South Dakota -----	50	265	345	377	*151	310	*94
Tennessee -----	470	4 437	6 312	4 136	1 342	4 467	1 636
Texas -----	1 165	7 867	11 184	7 877	2 731	7 866	2 822
Utah -----	216	843	1 162	760	245	953	322
Vermont -----	83	359	609	245	102	318	150
Virginia -----	1 022	8 120	11 753	7 995	2 641	8 267	3 008
Washington -----	338	1 138	1 637	941	321	992	354
West Virginia -----	140	443	508	417	118	487	147
Wisconsin -----	482	2 322	3 644	1 807	646	2 278	903
Wyoming -----	40	120	100	103	10	137	37

<sup>1</sup>Construction workers during pay periods including 12th of March, May, August, and November.



# Payroll by State: 1987

July to September		October to December		Relative standard error of estimate (percent) for column—										Location of establishment
Construction workers¹	Hours worked (thousands)	Construction workers¹	Hours worked (thousands)											
H	I	J	K	B	C	D	E	F	G	H	I	J	K	
162 914	62 005	152 007	56 674	1	1	1	1	1	1	1	1	1	1	U.S.
3 358 (S)	1 241 (S)	3 068 (S)	1 114 (S)	5 (S)	6 (S)	10 (S)	11 (S)	5 (S)	6 (S)	5 (S)	9 (S)	5 (S)	10 (S)	AL
3 677	1 435	3 529	1 295	4	5	4	5	4	5	4	6	5	7	AK
900	305	705	260	13	21	14	22	16	24	15	22	13	19	AZ
12 223	4 414	11 117	4 179	3	3	3	3	3	3	5	3	3	3	AR
1 968	662	1 778	586	6	8	6	9	7	8	8	9	7	10	CA
2 492	959	2 481	945	4	5	5	6	5	6	4	5	5	7	CO
1 122	436	1 080	405	10	12	10	13	10	13	10	12	9	13	CT
101	39	81	28	3	3	3	6	3	3	2	2	3	3	DE
8 493	3 327	8 191	3 204	3	5	4	5	3	5	3	5	4	5	DC
4 188	1 529	3 621	1 283	5	8	5	7	5	9	7	11	6	9	FL
499	179	498	182	7	9	8	12	6	8	9	9	9	10	GA
307	81	221	*42	19	33	23	39	22	32	23	39	31	49	HI
7 279	3 070	7 128	2 617	3	4	3	4	3	4	4	5	4	4	ID
2 917	1 182	2 800	1 156	5	7	6	7	5	8	5	7	5	8	IL
1 174	435	1 340	471	11	14	12	17	10	16	13	17	14	16	IN
1 259	437	1 040	423	9	11	11	11	10	12	10	11	11	15	IA
2 138	708	1 896	693	7	11	8	10	8	12	7	11	8	11	KS
1 723	508	1 749	492	10	11	8	8	11	12	10	12	15	16	KY
1 128	502	815	395	10	10	12	13	10	10	12	12	10	13	LA
8 487	3 292	8 146	3 068	3	4	3	5	3	5	4	4	4	5	ME
4 788	1 829	4 603	1 601	4	5	5	5	4	5	5	5	4	6	MD
4 257	1 673	3 837	1 532	3	5	4	6	4	5	4	5	3	4	MA
2 904	1 159	2 574	1 019	5	7	7	8	6	8	5	7	5	7	MI
897	391	840	351	11	13	14	16	12	15	14	17	15	16	MN
4 325	1 464	4 752	1 506	4	6	4	6	4	6	4	6	4	7	MS
205	59	164	42	20	24	25	30	22	24	25	26	29	34	MO
922	328	804	304	17	21	16	19	15	21	18	22	20	21	MT
788	253	863	285	10	14	14	17	14	19	12	17	11	16	NE
955	357	889	326	10	10	10	10	10	9	11	11	11	10	NV
7 387	3 033	6 611	2 746	3	4	3	4	3	4	3	4	3	4	NH
710	248	576	169	13	13	14	19	16	13	13	13	15	18	NJ
10 393	4 138	9 990	3 774	3	4	3	6	3	4	4	5	6	6	NM
6 857	2 418	6 295	2 219	4	5	5	6	4	5	4	5	5	5	NY
287	101	239	83	19	31	21	24	27	36	21	32	21	36	NC
7 658	3 074	6 718	2 638	4	5	5	5	4	5	4	6	4	6	ND
460	196	467	139	18	15	19	13	16	17	22	22	24	20	OH
613	217	780	317	9	12	10	14	11	11	10	10	8	31	OK
11 216	4 504	10 542	4 194	3	4	3	4	3	4	3	4	3	4	OR
1 021	333	946	404	7	8	10	13	7	9	7	8	7	7	PA
3 128	1 115	2 912	1 040	6	8	7	12	7	10	7	9	10	14	RI
189	56	185	*43	20	38	30	51	23	45	23	39	25	45	SC
4 787	1 755	4 358	1 576	7	11	5	7	10	14	9	13	7	9	SD
8 179	2 998	7 545	2 631	3	5	4	6	4	5	4	6	4	6	TN
849	313	811	280	11	18	14	21	12	18	11	17	12	21	TX
473	182	399	174	16	23	18	29	19	24	18	22	15	22	UT
8 534	3 237	7 685	2 866	3	3	3	5	3	4	3	4	3	4	VA
1 333	475	1 286	486	7	8	8	11	7	9	9	10	8	9	WA
497	153	371	89	17	21	20	28	16	21	18	19	18	29	WV
2 694	1 145	2 510	948	5	7	6	7	5	7	5	8	5	7	WI
120	28	119	22	18	20	38	14	31	33	23	27	23	21	WY

**Table 10. Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of construction work	1987					1982 construction receipts for work done in this State¹	Percent change 1987 (col A) to 1982 (col F)	Relative standard error of estimate (percent) for column—		
	Value of construction work done in this State¹	Construction work done by establishments located in this State		Construction work done by establishments not located in this State						
		Number	Value of construction work	Number	Value of construction work					
A	B	C	D	E	F	G	A	C	E	
United States -----	8 714 161	22 975	7 904 193	3 234	809 967	4 269 394	104.1	1	1	2
Alabama -----	75 753	334	67 798	41	7 955	26 440	186.5	8	9	7
Alaska -----	1 823	6	(D)	*2	(D)	15 717	-88.4	4	(D)	(D)
Arizona -----	194 664	368	188 382	13	6 281	95 118	104.7	4	4	1
Arkansas -----	24 818	184	19 486	63	5 332	20 951	18.5	10	12	16
California -----	888 958	1 512	857 948	50	31 009	332 896	167.0	2	2	16
Colorado -----	94 114	297	85 036	*20	9 077	103 607	-9.2	5	5	32
Connecticut -----	173 667	440	155 839	40	17 828	56 958	204.9	4	4	4
Delaware -----	65 612	135	55 228	58	10 383	27 361	139.8	9	10	23
District of Columbia -----	37 344	10	(D)	101	(D)	46 186	-19.1	4	(D)	(D)
Florida -----	369 119	1 225	350 106	51	19 012	238 158	55.0	4	4	6
Georgia -----	162 718	507	112 421	122	50 296	67 679	140.4	4	5	8
Hawaii -----	42 330	82	40 624	*8	1 705	26 793	58.0	10	11	21
Idaho -----	12 065	83	11 458	*16	*607	9 849	22.5	15	16	48
Illinois -----	506 518	946	467 973	86	38 545	224 052	126.1	2	2	7
Indiana -----	169 503	470	156 254	62	13 249	86 675	95.6	6	7	9
Iowa -----	49 801	179	44 356	87	5 445	38 459	29.5	10	11	38
Kansas -----	50 456	223	43 625	60	6 831	35 166	43.5	9	10	12
Kentucky -----	81 998	339	63 025	100	18 973	53 327	53.8	5	6	4
Louisiana -----	68 854	185	61 057	41	7 797	60 987	12.9	26	29	3
Maine -----	47 620	198	40 201	51	7 419	25 200	89.0	7	8	17
Maryland -----	371 289	662	325 840	149	45 449	153 795	141.4	4	5	10
Massachusetts -----	313 887	694	274 977	136	38 909	157 866	98.8	3	4	2
Michigan -----	272 393	746	261 576	88	10 816	107 234	154.0	3	3	20
Minnesota -----	197 645	438	180 308	61	17 337	74 354	165.8	4	4	9
Mississippi -----	25 832	192	19 717	41	6 115	22 265	16.0	19	25	14
Missouri -----	207 401	530	187 861	95	19 540	83 168	149.4	4	4	12
Montana -----	9 818	68	8 838	6	979	12 965	-24.3	12	13	25
Nebraska -----	33 674	180	28 621	17	5 052	28 441	18.4	12	14	16
Nevada -----	59 316	106	56 846	60	2 469	26 576	123.2	11	12	10
New Hampshire -----	54 449	205	43 924	97	10 525	15 311	255.6	9	10	25
New Jersey -----	590 182	1 182	528 351	185	61 830	215 983	173.3	3	4	6
New Mexico -----	35 444	114	30 194	*16	5 250	31 766	11.6	8	10	13
New York -----	701 828	1 583	675 429	99	26 399	337 389	108.0	3	3	10
North Carolina -----	247 707	1 131	206 065	96	41 642	80 224	208.8	4	5	5
North Dakota -----	17 081	75	11 675	56	5 405	10 616	60.9	13	15	23
Ohio -----	380 906	1 090	362 231	103	18 674	164 326	131.8	4	4	10
Oklahoma -----	32 458	123	19 069	31	13 388	48 348	-32.9	13	15	24
Oregon -----	36 949	169	34 713	20	2 235	24 684	49.7	8	8	27
Pennsylvania -----	567 477	1 480	550 562	124	16 915	253 168	124.2	4	4	13
Rhode Island -----	39 595	130	38 871	11	724	17 947	120.6	13	13	21
South Carolina -----	85 743	416	72 757	115	12 985	33 554	155.5	6	6	20
South Dakota -----	9 833	50	9 033	*14	800	9 446	4.1	19	21	35
Tennessee -----	131 956	460	115 918	109	16 037	66 512	98.4	5	5	15
Texas -----	400 264	1 115	382 954	46	17 310	356 866	12.2	4	4	11
Utah -----	42 604	214	40 908	10	1 696	30 837	38.2	11	11	28
Vermont -----	25 713	83	21 995	46	3 718	8 495	202.7	18	21	29
Virginia -----	421 365	1 017	336 403	166	84 962	138 205	204.9	5	6	9
Washington -----	95 050	330	91 941	12	3 108	54 546	74.3	7	7	11
West Virginia -----	33 065	139	11 340	83	21 724	19 320	71.1	14	18	19
Wisconsin -----	146 728	469	143 274	24	3 453	73 045	100.9	4	4	7
Wyoming -----	8 750	40	5 124	22	3 625	20 536	-57.4	17	19	32

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



**Table 11. Dollar Value of Business Done for Establishments With Payroll by Kind of Business Activity: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Primary and other kinds of business activities	Dollar value of business done <sup>1</sup>		Relative standard error of estimate (percent)	
	1987	1982	1987	1982
<b>All kinds of business.....</b>	<b>8 778 589</b>	<b>4 332 628</b>	<b>1</b>	<b>1</b>
General building contractor .....	15 280	12 739	13	22
Masonry contractor .....	8 253 588	3 738 680	1	17
Marble contractor, exterior .....	190 399	(NA)	6	(NA)
Masonry contractor, block and brick .....	6 290 235	(NA)	1	(NA)
Refractory brick contractor .....	180 213	(NA)	4	(NA)
Stonework contractor .....	399 751	(NA)	6	(NA)
Foundation contractor, masonry .....	1 028 713	(NA)	3	(NA)
Masonry—pointing, cleaning, or caulking contractor .....	164 274	(NA)	6	(NA)
Drywall contractor .....	19 156	(S)	13	(S)
Insulation contractor .....	19 449	6 185	4	7
Plastering contractor .....	14 168	4 895	13	14
Marble contractor, interior .....	43 135	(NA)	4	(NA)
Tile setting contractor .....	26 949	24 177	6	3
Carpentry contractor .....	19 905	23 591	21	7
Concrete construction .....	105 098	91 651	4	3
Concrete contractor .....	76 666	(NA)	5	(NA)
Foundation contractor, concrete .....	28 432	(NA)	11	(NA)
Other construction activities .....	112 575	(S)	15	(S)
Other activities .....	65 094	(S)	7	(S)
Kind of business activity, n.s.k. ....	84 192	(S)	10	(S)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

**Table 12. Selected Industry Ratios for Establishments With Payroll: 1987 and 1982**

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	1987	1982	Relative standard error of estimate (percent) for 1987
<b>AVERAGE PER ESTABLISHMENT</b>			
Number of employees**.....	7.3	6.0	1
Number of construction workers.....	6.5	5.4	1
Number of all other employees.....	.8	(NA)	1
Payroll, all employees..... \$1,000.....	126.6	76.8	1
Payroll, construction workers..... do.....	105.7	66.6	1
Payroll, other employees..... do.....	20.8	10.2	1
Dollar value of business done..... do.....	377.0	214.6	1
Value of construction work <sup>1</sup> ..... do.....	374.3	211.5	1
Cost of materials, components, supplies, and fuels..... do.....	122.8	71.4	1
Construction work subcontracted to others..... do.....	19.1	11.0	3
Rental cost for machinery, equipment, and buildings..... do.....	5.0	2.5	2
Capital expenditures, other than land..... do.....	6.7	3.6	3
Gross book value of depreciable assets..... do.....	39.7	41.6	2
<b>AVERAGE PER EMPLOYEE</b>			
Payroll, all employees..... do.....	17.4	12.9	5
Dollar value of business done..... do.....	52.0	35.9	1
Value added††..... do.....	32.4	22.1	1
<b>AVERAGE PER CONSTRUCTION WORKER</b>			
Payroll, construction workers..... do.....	16.4	12.3	5
Value of construction work <sup>1</sup> ..... do.....	58.0	39.0	1
Construction worker hours.....	1 473.7	1 302.6	1
<b>AVERAGE PER OTHER EMPLOYEE</b>			
Payroll, other employees..... \$1,000.....	26.0	(NA)	1
<b>AVERAGE PER DOLLAR VALUE OF CONSTRUCTION WORK<sup>1</sup></b>			
Payroll, all employees.....	.338	.363	1
Cost of materials, components, supplies, and fuels.....	.328	.338	1
Cost of construction work subcontracted to others.....	.051	.052	3
Rental cost for machinery, equipment, and buildings.....	.013	.012	2

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



**Table 13. Selected Industry Ratios for Establishments With Payroll by State: 1987**

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Average number of employees** per establishment	Payroll per employee (\$1,000)	Construction worker hours per construction worker	Value of construction work per construction worker (\$1,000)	Average per dollar of value of construction work			
					Payroll, all employees	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings
<b>United States</b> .....	<b>7.3</b>	<b>17.4</b>	<b>1 473.7</b>	<b>58.0</b>	<b>.338</b>	<b>.328</b>	<b>.051</b>	<b>.013</b>
Alabama .....	10.2	11.0	1 402.4	32.4	.366	.359	.073	.017
Alaska .....	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(D)
Arizona .....	10.7	16.4	1 517.3	54.5	.335	.380	.028	.017
Arkansas .....	4.7	9.4	1 410.7	34.9	.291	.262	.022	.007
California .....	8.2	21.0	1 471.0	78.9	.305	.362	.066	.012
Colorado .....	6.7	16.7	1 347.8	55.2	.337	.345	.034	.019
Connecticut .....	6.0	20.6	1 534.1	69.7	.340	.317	.046	.015
Delaware .....	8.9	17.2	1 453.8	58.3	.335	.335	.054	.007
District of Columbia .....	8.7	18.7	1 420.5	62.0	.328	.354	.032	(D)
Florida .....	7.5	14.0	1 538.4	44.7	.349	.337	.071	.016
Georgia .....	7.8	12.2	1 390.7	32.9	.405	(D)	.037	.019
Hawaii .....	7.1	20.7	1 507.3	84.5	.297	(D)	.019	.018
Idaho .....	3.0	8.7	1 034.2	49.3	.187	.489	*.025	.002
Illinois .....	8.1	23.0	1 551.7	71.9	.364	.315	.041	.009
Indiana .....	6.5	18.5	1 575.4	65.3	.327	.265	.053	.009
Iowa .....	6.7	17.2	1 508.3	53.5	.378	.340	.025	.004
Kansas .....	5.6	17.2	1 433.6	51.8	.377	.259	.060	.005
Kentucky .....	6.0	12.8	1 391.3	40.2	.358	(D)	.071	.020
Louisiana .....	9.9	14.8	1 147.8	54.3	.315	(D)	*.052	.016
Maine .....	5.6	14.3	1 754.4	50.7	.324	.311	.018	.022
Maryland .....	13.1	17.3	1 456.0	51.2	.374	.321	.029	.009
Massachusetts .....	7.1	21.0	1 440.4	68.4	.349	.305	.024	.016
Michigan .....	5.8	21.7	1 533.2	70.1	.351	.312	.034	.011
Minnesota .....	6.4	21.2	1 523.0	74.7	.323	.378	.033	.008
Mississippi .....	4.4	8.6	1 647.0	28.5	.335	.224	*.201	*.031
Missouri .....	9.0	18.4	1 247.8	50.2	.409	.306	.021	.006
Montana .....	2.8	12.7	1 159.5	59.0	.252	.411	*.014	*.018
Nebraska .....	5.0	11.8	1 400.0	36.9	.367	.312	.045	.010
Nevada .....	8.2	20.0	1 364.0	75.5	.301	.420	*.015	.010
New Hampshire .....	5.0	15.9	1 437.1	56.3	.323	.326	.028	.020
New Jersey .....	6.3	22.1	1 590.2	83.0	.303	.329	.082	.015
New Mexico .....	6.4	14.0	1 269.1	47.1	.331	.347	.049	.003
New York .....	6.9	20.9	1 536.0	74.8	.318	.299	.058	.016
North Carolina .....	6.4	12.3	1 387.2	34.7	.388	.280	.053	.014
North Dakota .....	3.6	15.0	1 431.6	52.7	.326	.338	.104	*.012
Ohio .....	6.7	17.5	1 547.6	58.6	.336	.326	.061	.014
Oklahoma .....	4.2	14.5	1 445.9	41.0	.388	.357	.014	.004
Oregon .....	3.9	17.7	1 479.9	67.7	.292	(D)	.036	.014
Pennsylvania .....	7.4	18.2	1 546.7	64.6	.315	.328	.045	.011
Rhode Island .....	8.2	23.6	1 470.5	91.8	.317	.309	.032	.012
South Carolina .....	7.6	11.0	1 438.0	31.7	.379	.283	.078	.013
South Dakota .....	5.8	15.6	1 301.9	34.6	.498	.292	*.002	.002
Tennessee .....	10.2	12.6	1 422.6	34.1	.401	.332	.046	.012
Texas .....	7.8	15.6	1 421.6	54.7	.330	.342	.070	.024
Utah .....	4.4	14.5	1 378.4	54.4	.301	.355	*.059	.024
Vermont .....	5.2	17.7	1 696.4	63.0	.338	(D)	.062	.023
Virginia .....	8.7	15.4	1 447.4	45.5	.372	.313	.043	.012
Washington .....	3.8	20.5	1 438.5	83.8	.279	.397	.047	.014
West Virginia .....	3.5	11.5	1 146.7	28.2	.446	(D)	*.053	.015
Wisconsin .....	5.5	19.4	1 569.3	67.2	.331	.384	.038	.011
Wyoming .....	3.4	12.0	833.3	42.7	.321	(D)	*.038	*.008





# APPENDIX A.

## Explanation of Terms

**Construction**—Is composed of three broad categories:

1. **New construction**—Includes the complete, original erection of structures and essential service facilities and the initial installation of integral equipment such as elevators, and plumbing, heating, and air-conditioning supplies and equipment.
2. **Additions, alterations or reconstruction**—Includes construction activity making structural changes to existing facilities. Generally, this type of activity is considered a capital investment in the property.
3. **Maintenance and repair**—Includes construction done for the purpose of upkeep of property rather than additional investment in the property.

Examples of the general distinction between maintenance and repair and reconstruction are provided here: roof repairs, including the replacement of shingles, gutters, etc., are classified under maintenance and repairs. A complete reroofing, however, is classified as reconstruction.

**Number of establishments in business during year**—Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included.

**Proprietors and working partners**—These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

**All employees**—Comprise all full-time and part-time employees on the payrolls of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not.

All employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

**Construction workers**—Includes all workers up through the working foreman level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment

operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category but are included in the "other employees" category.

**Other employees**—Includes employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

**Construction worker hours**—Includes the total number of hours worked by construction workers. Construction worker hours were collected for each of the four quarters of 1987.

**Payroll**—Includes the gross earnings paid in the calendar year 1987 to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if an unincorporated concern.

**Employer costs for fringe benefits (supplemental labor costs)**—Represents expenditures made by the employer during 1987 for legally required and voluntary fringe benefit programs for employees.

**Legally required contributions**—Include Social Security contributions, unemployment compensation, workman's compensation, and State temporary disability payments.

**Voluntary payments**—Include life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

Dollar value of business done comprises the following detail:

**Value of construction work done**—Includes all value of construction work done during 1987 for construction work performed by general contractors, special trades contractors, subcontractors, and land development and improvement work. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.



Builders were instructed to include the value of buildings and other structures built or being built for sale in 1987 but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators, etc., were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment which are not an integral part of a structure.

**Land receipts**—Includes receipts from the sale of land, whether held for sale or sold in connection with the sale of houses and other structures. It excludes the value of any improvements made to the land prior to the sale. (That value was to be included in the value of construction work done.)

**Other business receipts**—Includes business receipts not reported as value of construction work done or land receipts. The item includes business receipts from retail and wholesale trade, rental of equipment, manufacturing, transportation, legal service, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here.

Excluded was the value of construction work done and receipts from other business operations in foreign countries and non-operating income such as interest and dividends.

**Net value of construction work**—Derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Value added**—Derived for each establishment, value added is equal to dollar value of business done, less costs for construction work subcontracted to others, and costs for materials, components, supplies and fuels. For SIC 6552 and SIC 1531, for which land receipts are significant, land receipts are also subtracted from dollar value of business done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Selected costs**—Represents the costs for materials, components, and supplies; costs for construction work subcontracted to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

Costs for materials, components, and supplies include:

- total costs to reporting establishments during 1987 for the purchase of all materials, components, and supplies, except fuels. (Supplies include expendable tools which are charged to current accounts.)
- freight and other direct charges should represent only amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company.
- costs for materials, components, and supplies used by the reporting establishments in the construction or reconstruction of buildings/structures for themselves which are chargeable to their fixed assets accounts, are included in this item as are costs for materials bought and resold to others.
- costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use.

Excluded from this item are:

- industrial and other specialized machinery and equipment, such as printing presses; computer systems; etc., which are not an integral part of a structure
- materials furnished to contractors by the owners of projects.

Costs for construction work subcontracted to others include:

- all costs during 1987 for construction work subcontracted out to other construction contractors.

Excluded from this item are:

- The costs to the reporting establishment for its purchases of materials, components, and supplies, provided to a subcontractor for his use. Such costs are reported under a separate category, "costs for materials, components, and supplies."
- costs for the rental of machinery or equipment.

Costs for selected power, fuels, and lubricants include:

- costs for fuels, lubricants, and electric energy purchased during the year from other companies, or received from other establishments of the company.
- costs for natural and manufactured gas, fuel oil, coal and coke products, etc.

**Rental costs for machinery, equipment, and buildings**—Includes all costs during 1987 for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It



excludes costs for the rental of land. It also excludes costs under agreements which, in effect, are conditional sales contracts such as capital leases. Such costs are included in "capital expenditures."

**Selected purchased services**—Includes all costs during 1987 for communication services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies, or from other establishments of the same company. It includes only the cost of that repair necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property, or the cost of adapting it for another use. Such costs are included in "capital expenditures".

**Assets and depreciation**—Refers to the original cost of all fixed tangible assets such as buildings and other structures (offices, shops, etc.); stationary machinery (generators, shop equipment, etc.); mobile machinery (tractors, trucks, etc.); and other equipment (office furniture and fixtures, etc.). Not included are such items as current assets, depletable assets, intangible assets, and nondepreciable assets.

Data on assets and depreciation were collected separately for: (1) buildings and other structures, additions, and related facilities; and, (2) machinery and equipment.

Respondents were also asked to report capitalized expenditures, depreciation charges, and the gross value of assets sold, retired, scrapped, destroyed, etc., during 1987.

**Capital expenditures**—Refers to all costs actually incurred during 1987 which were or would be chargeable to the fixed assets accounts of the reporting establishments and which were of the type for which depreciation accounts are ordinarily maintained. These expenditures cover the acquisition, the construction, and the major alteration of the reporting establishment's own buildings and other structures, whether purchased, constructed under contract, or constructed by the reporting establishment's own forces; and the acquisition of machinery and equipment.

If leasing arrangements met the criteria set down by the Financial Accounting Standards Board (FASB) for a capital lease, respondents were instructed to report the original cost or market value of that equipment or building as a fixed asset and capital expenditure if acquired during 1987.

If capital expenditures were not recorded directly at the establishment level but handled centrally at the company or division level, respondents were requested to report appropriate estimates for the individual establishments.

**Inventories**—Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others, but held by the reporting establishment.

Builders who built on their own account for sale were requested to report work in progress and finished units not sold for buildings and other structures built for sale.

Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

**Ownership of construction projects**—This item shows the distribution of the value of construction work done by ownership of the project, that is, Government owned or privately owned. This classification relates to the ownership of the projects or work undertaken during the construction phase. Government owned projects are shown separately for Federal, and State and local governments.

**Value of construction work subcontracted in from others**—Includes the value of construction work during 1987 for work done by reporting establishments for other construction contractors or builders. Establishments were asked to report the approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

**Types of construction**—This item provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in 1987. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function. For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose, i.e, office and residential, or commercial, they were to classify the building by major purpose.

In addition all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types. See the definition of "Construction" for the meanings of these terms.

Building construction:

- **Single-family houses, detached**—Includes all residential buildings constructed for one family use.
- **Single-family houses, attached (include townhouses)**—Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken wall from ground to roof.
- **Apartment buildings with two or more apartments**—Includes high-rise, low-rise, or any structures containing two or more housing units (excluding attached single-family houses and townhouses described above).
- **Hotels and motels**—Includes hotels, motels, and tourist cabins intended for transient accommodations.



- **Other residential buildings**—Includes dormitories, fraternity and sorority houses, nurses homes, and other nonhousekeeping residential structures.
- **Office buildings**—Includes all buildings which are used primarily for office space or for government administrative offices. Also included are banks or financial buildings which are three stories or more.
- **Other commercial buildings, such as stores, restaurants, and automobile service stations**—Includes all buildings which are intended for use primarily in the wholesale, retail, and service trades. For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- **Industrial buildings**—Includes all industrial buildings and plants which are used to house production and assembly activities. Heavy industrial facilities such as blast furnaces, petroleum refineries, chemical complexes, etc., are not included in this category, but under nonbuilding construction.
- **Warehouses**—Includes commercial warehouses, cold storage plants, grain elevators, mini-warehouses, and other such storage buildings.
- **Religious buildings**—Includes all buildings which are intended for religious services or functions, such as churches, synagogues, convents, monasteries, and seminaries.
- **Educational buildings**—Includes all buildings which are used directly in administrative and instructional activities, such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories which are not a part of a manufacturing establishment, are also included.
- **Hospitals and institutional buildings**—Includes all buildings which are intended to provide hospital and institutional care, such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- **Farm buildings, nonresidential**—Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- **Amusement, social, and recreational buildings**—Includes buildings which are used primarily for entertainment, social and recreational activities, such as sports arenas, theaters, music halls, golf and country club buildings, skating rinks, bowling alleys, and indoor swimming pools.
- **Other nonresidential buildings**—Includes nonresidential buildings which are not classified elsewhere, such as fire stations, prisons, civic centers, bus and air passenger terminals and hangars.

#### Nonbuilding construction:

- **Highways, streets and related work, such as installation of guardrails, highway signs, etc.**—Includes streets, roads, alleys, sidewalks, curbs and gutters, culverts, right-of-way drainage, erosion control and lighting. Also includes earthwork protective structures when used in connection with road improvements.
- **Outdoor swimming pools**—Includes wading pools and reflecting pools.
- **Recreational facilities**—Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- **Bridges and elevated highways**—Includes viaducts and overpasses; roads, highways, railroads, and causeways built on structural supports.
- **Tunnels**—Includes highway, pedestrian, and railroad tunnels.
- **Railroad construction**—Includes the construction of railroad beds, tracks, freight yards, and signal towers.
- **Subway construction**—Includes urban mass transit subway systems above or below ground.
- **Dam and reservoir construction**—Includes hydroelectric, water supply, and flood control dams and reservoirs.
- **Marine construction**—Includes dredging, underwater rock removal, breakwaters, navigational channels, jetties, and locks.
- **Harbor and port facilities**—Includes docks, piers, and wharves.
- **Conservation and development construction**—Includes land reclamation, irrigation projects, drainage canals, levees, and flood control projects.
- **Power and communication transmission lines, towers, and related facilities**—Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, electric light and power facilities.
- **Power plants, except nuclear**—Includes electric and steam generating plants.
- **Power plants, nuclear**—Includes atomic energy plants, and nuclear reactors.
- **Sewers, sewerlines, and related facilities**—Includes sanitary and storm sewers, and related facilities.
- **Sewage treatment plants**—Includes sewage treatment and waste disposal plants.
- **Water mains and related facilities**—Includes water supply systems and related facilities.



- **Water treatment plants**—Includes water filtration and water softening plants.
- **Pipeline construction other than sewer or waterlines**—Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- **Blast furnaces, petroleum refineries, chemical complexes, etc.**—Includes coke ovens, and mining appurtenances such as tipples and washeries.
- **Other nonbuilding construction**—Includes all types of nonbuilding construction, not included elsewhere.





## APPENDIX B.

### Standard Industrial Classification Titles for Industry Groups and Industries

SIC code	Industry titles	SIC code	Industry titles
<b>15</b>	<b>BUILDING CONSTRUCTION—GENERAL CONTRACTORS AND OPERATIVE BUILDERS</b>	<b>17</b>	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS—Con.</b>
<b>152</b>	<b>General Building Contractors—Residential Buildings</b>	<b>173</b>	<b>Electrical Work Special Trade Contractors</b>
1521	General Contractors—Single-Family Houses	1731	Electrical Work Special Trade Contractors
1522	General Contractors—Residential Buildings, Other Than Single-Family	<b>174</b>	<b>Masonry, Stone Work Tile Setting, and Plastering Special Trade Contractors</b>
<b>153</b>	<b>Operative Builders</b>	1741	Masonry, Stone Setting, and Other Stone Work Special Trade Contractors
1531	Operative Builders	1742	Plastering, Drywall, Acoustical, and Insulation Work Special Trade Contractors
<b>154</b>	<b>General Building Contractors—Nonresidential Buildings</b>	1743	Terrazzo, Tile, Marble, and Mosaic Work Special Trade Contractors
1541	General Contractors—Industrial Buildings and Warehouses	<b>175</b>	<b>Carpentry and Floor Work Special Trade Contractors</b>
1542	General Contractors—Nonresidential Buildings, Other Than Industrial Buildings and Warehouses	1751	Carpentry Work Special Trade Contractors
<b>16</b>	<b>HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION—CONTRACTORS</b>	1752	Floor Laying and Other Floor Work Special Trade Contractors, Not Elsewhere Classified
<b>161</b>	<b>Highway and Street Construction, Except Elevated Highways</b>	<b>176</b>	<b>Roofing, Siding, and Sheet Metal Work Special Trade Contractors</b>
1611	Highway and Street Construction Contractors, Except Elevated Highways	1761	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
<b>162</b>	<b>Heavy Construction, Except Highway and Street Construction</b>	<b>177</b>	<b>Concrete Work Special Trade Contractors</b>
1622	Bridge, Tunnel, and Elevated Highway Construction Contractors	1771	Concrete Work Special Trade Contractors
1623	Water, Sewer, Pipeline, and Communications and Powerline Construction	<b>178</b>	<b>Water Well Drilling Special Trade Contractors</b>
1629	Heavy Construction, Not Elsewhere Classified	1781	Water Well Drilling Special Trade Contractors
<b>17</b>	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS</b>	<b>179</b>	<b>Miscellaneous Special Trade Contractors</b>
<b>171</b>	<b>Plumbing, Heating, and Air-Conditioning Special Trade Contractors</b>	1791	Structural Steel Erection Special Trade Contractors
1711	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1793	Glass and Glazing Work Special Trade Contractors
<b>172</b>	<b>Painting and Paper Hanging Special Trade Contractors</b>	1794	Excavation Work Special Trade Contractors
1721	Painting and Paper Hanging Special Trade Contractors	1795	Wrecking and Demolition Work Special Trade Contractors
		1796	Installation or Erection of Building Equipment, Special Trade Contractors, Not Elsewhere Classified
		1799	Special Trade Contractors, Not Elsewhere Classified
		<b>6552</b>	<b>LAND SUBDIVIDERS AND DEVELOPERS, EXCEPT CEMETERIES</b>





# **APPENDIX C.**

## **Geographic Divisions and States**

### **NEW ENGLAND STATES**

Connecticut  
Maine  
Massachusetts  
New Hampshire  
Rhode Island  
Vermont

### **MIDDLE ATLANTIC STATES**

New Jersey  
New York  
Pennsylvania

### **EAST NORTH CENTRAL STATES**

Illinois  
Indiana  
Michigan  
Ohio  
Wisconsin

### **WEST NORTH CENTRAL STATES**

Iowa  
Kansas  
Minnesota  
Missouri  
Nebraska  
North Dakota  
South Dakota

### **SOUTH ATLANTIC STATES**

Delaware  
District of Columbia  
Florida  
Georgia  
Maryland

### **SOUTH ATLANTIC STATES—Con.**

North Carolina  
South Carolina  
Virginia  
West Virginia

### **EAST SOUTH CENTRAL STATES**

Alabama  
Kentucky  
Mississippi  
Tennessee

### **WEST SOUTH CENTRAL STATES**

Arkansas  
Louisiana  
Oklahoma  
Texas

### **MOUNTAIN STATES**

Arizona  
Colorado  
Idaho  
Montana  
Nevada  
New Mexico  
Utah  
Wyoming

### **PACIFIC STATES**

Alaska  
California  
Hawaii  
Oregon  
Washington



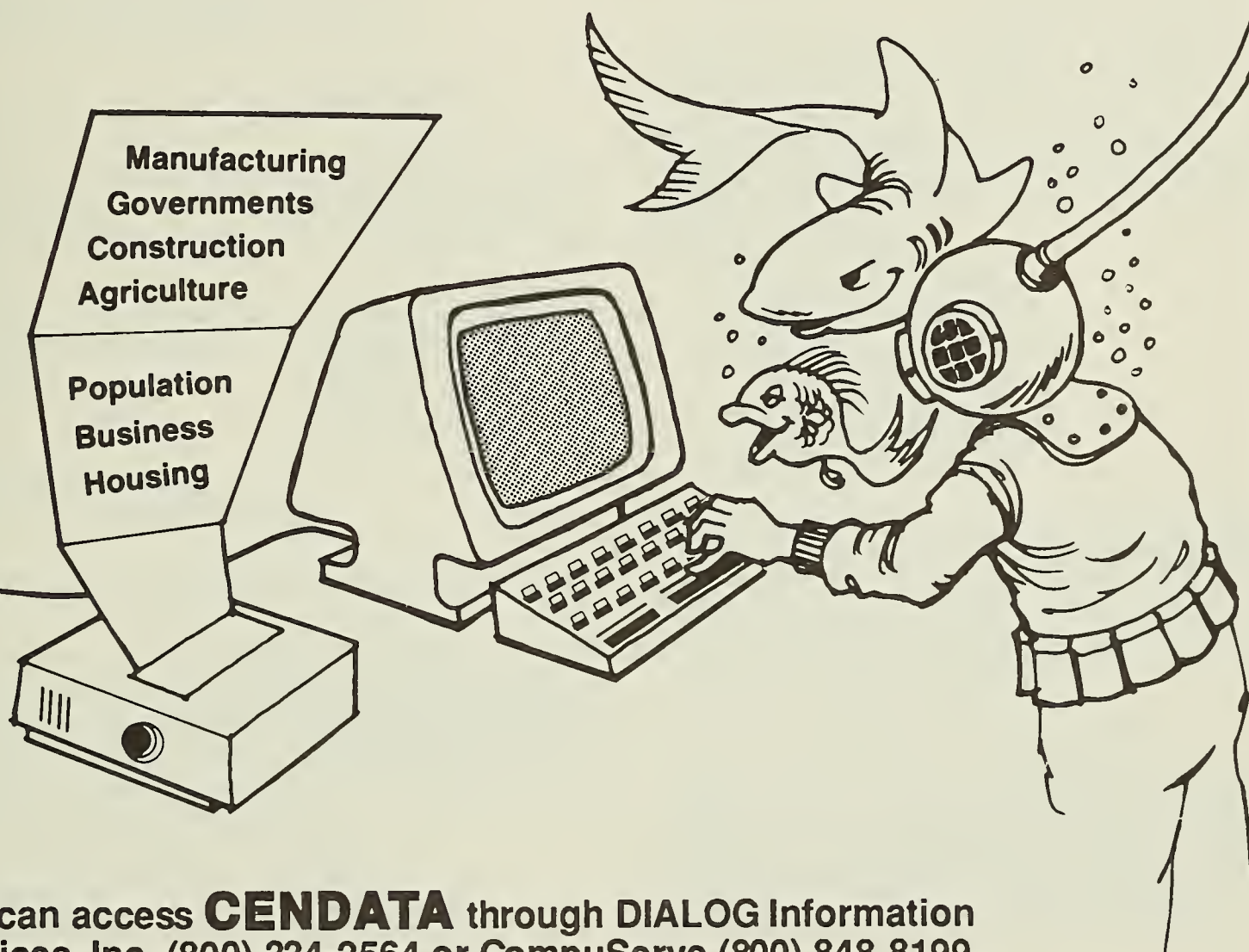


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# PUBLICATION PROGRAM

## 1987 CENSUS OF CONSTRUCTION INDUSTRIES

The Census of Construction Industries is taken once every 5 years. The census covers all establishments engaged in construction, including:

- Building contractors
- Heavy construction contractors
- Special trade contractors (including plumbers, carpenters, painters, electricians)
- Land developers and subdividers

Data products in the Census of Construction Industries are issued in 4 publication series and in 3 other media:

- Printed reports [P]
- CD-ROM [C]
- Computer tape [T]
- Highlights online [+]

### Preliminary Industry Series (CC87-I-1(P) through CC87-I-28(P))

(Available November 1988 through May 1989) [P]

Twenty-seven separate industry reports and a United States summary report, providing national statistics for establishments with payroll. Statistics shown for 1987 include:

- Number of establishments
- Number of employees
- Payroll
- Hours worked
- Value of construction work done, by type of structure
- Selected operating costs

### Final Industry Series (CC87-I-1 through CC87-I-28)

(Available June 1989 through November 1989) [P] [C] [T] [+]

Twenty-seven separate industry reports and a United States summary report, providing statistics for the Nation and individual States on establishments with payroll. These reports update figures from the preliminary industry series (employment, payroll, value of construction, etc.) and provide measures of the following:

- Capital expenditures
- Inventories
- Industry profiles
- Assets
- Depreciation
- And much more

## Geographic Area Series (CC87-A-1 through CC87-A-10)

(Available January 1990 through March 1990) [P] [C] [T] [+]

Nine reports on the construction industries, representing each census geographic division, and a United States summary report. Regional reports provide detailed data for States and metropolitan statistical areas.

## Subject Report—Legal Form of Organization and Type of Operation (CC87-S-1)

(Available May 1990) [P]

One report providing selected national statistics for each industry by legal form of organization and type of operation. This report includes data for establishments with and without payroll. Data in this report include—

- Employment
- Payroll
- Value of construction work done
- Selected operating costs

## OTHER ECONOMIC CENSUSES REPORTS

The Census of Construction Industries is part of the 1987 Economic Censuses. These are conducted at five-year intervals in years ending in 2 and 7 and consist of seven separate censuses:

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction

...plus several related programs: enterprise statistics; information on minority-owned and women-owned businesses; and the Census of Outlying Areas, including separate economic censuses of Puerto Rico and other outlying areas. The Census of Agriculture and Census of Governments are conducted separately.

## HOW TO ORDER DATA PRODUCTS

Order forms for the specific reports and other data products may be obtained from Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, DC 20233. If you have any questions, call Census Customer Services 1-(301)-763-4100.

CB/Bureau of the Census Library



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CC87-I-13

Masonry, Stone Setting, and Other Stone Work Special Trade Contractors

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Industries

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